

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	887	(resorcinol\$1 near8 (arylate\$1 or polyester\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:58
L2	1116	(resorcinol\$1 near8 (arylate\$1 or polyester\$1 or polycarbonate\$1 or polyester carbonate\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:29
L3	2413	(resorcinol\$1 with (polyester\$1 or polycarbonate\$1 or polyester carbonate\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:24
L4	8007	(resorcinol\$1 with (isophthalate or terephthalate\$1 or isophenone\$1 or bisphenol\$1 or naphthal\$6))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:52
L5	860	I3 and I4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:13
L6	160162	(exposed or exposure or exposing or irradiat\$6 or light) with (mask\$1 or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:17
L7	458	I6 and (I3 or I4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:15
L8	1	I6 same (I3 or I4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:15
L9	860271	(resorcinol\$1 or polyester\$1 or polycarbonate\$1 or polyester carbonate\$1 or isophthalate or terephthalate\$1 or isophenone\$1 or bisphenol\$1 or naphthal\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:16
L10	1253	I6 same I9	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:17

L11	1	I5 and I10	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:17
L12	162317	(exposed or exposure or exposing or irradiat\$6 or light or uv or ultraviolet) with (mask\$1 or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:51
L13	4500281	(exposed or exposure or exposing or irradiat\$6 or light or uv or ultraviolet or photosensitive or refractive or refraction)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:03
L14	357	I13 same (I3 or I4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:19
L15	36	(soll\$5 with general)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:20
L16	6	(sollx and I13)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:35
L17	49	I6 and I3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:24
L18	50	I12 and I3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:30
L19	733	(resorcinol\$1 near5 (arylate\$1 or polyester\$1 or polycarbonate\$1 or polyester carbonate\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:30
L20	9	I12 and I19	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:30

L21	1	(solx and l12)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:35
L22	85	l13 same l1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:42
L23	194	((l2 and l4) or slx) and (waveguid\$6 or lens\$6 or hologra\$6 or data)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:43
L24	139	((l2 same l4) or slx) and (waveguid\$6 or lens\$6 or hologra\$6 or data)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:45
L25	21	(slx) and (waveguid\$6 or lens\$6 or hologra\$6 or data)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:44
L26	0	(slx) and (waveguid\$6 or lens\$6 or hologra\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:45
L27	3	(slx) and (fries)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:45
L28	55	((l2 same l4) or slx) and (fries)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:51
L29	521140	(light or uv or ultraviolet) with (expos\$6 or dosag\$6 or irradiat\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:47
L30	4612	(resorcinol\$1 near5 (isophthalate or terephthalate\$1 or isophenone\$1 or bisphenol\$1 or naphthal\$6))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:46

L31	5421	(resorcinol\$1 near8 (isophthalate or terephthalate\$1 or isophenone\$1 or bisphenol\$1 or naphthal\$6))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:52
L32	1048	I29 and I31	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:53
L33	84	I29 and I31 and I2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 09:53
L34	475	(resorcinol\$1 near5 (isophthalate or terephthalate\$1 or isophenone\$1 or bisphenol\$1 or naphthal\$6 or arylate))	EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:46
L35	48	(light or uv or ultraviolet) and I34	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:02
L36	49	(light or uv or ultraviolet or mask\$1 or photomask\$1) and I34	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:58
L37	1	(resorcinol near3 arylate\$1) same (mask or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 10:59
L38	38	(resorcinol) same (mask or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:02
L39	1238	(polycarbonate) same (mask or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:02
L40	347	(light or uv or ultraviolet) same I39	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:02



L41	211640	(exposed or exposure or exposing or irradiat\$6 or light or uv or ultraviolet or photosensitive or refractive or refraction or fries) same (mask\$1 or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:04
L42	347	I40 and I41	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:04
L43	9062	(refractive or refraction or fries) same (mask\$1 or photomask\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:04
L44	62	I40 and I43	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:04

\$%^STN;HighlightOn= \*\*\*;HighlightOff=\*\*\* ;

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IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
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NEWS 13 JAN 30 Saved answer limit increased

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=> .s resorcinol

28794 RESORCINOL

834 RESORCINOLS

L1 28980 RESORCINOL

(RESORCINOL OR RESORCINOLS)

=> s l1 and (uv or ultraviolet)

475320 UV

333 UVS

475436 UV

(UV OR UVS)

206232 ULTRAVIOLET

11 ULTRAVIOLETS

206240 ULTRAVIOLET

(ULTRAVIOLET OR ULTRAVIOLETS)

475320 UV

333 UVS

475436 UV

(UV OR UVS)

593728 ULTRAVIOLET

(ULTRAVIOLET OR UV)

L2 1449 L1 AND (UV OR ULTRAVIOLET)

=> s l1 and (mask? or photomask?)

113347 MASK?

14888 PHOTOMASK?

L3 200 L1 AND (MASK? OR PHOTOMASK?)

=> s l3 and (arylate or carbonate or polycarbonate or isophorone or isophthalate or terephthalate

310 ARYLATE

111 ARYLATES

395 ARYLATE

(ARYLATE OR ARYLATES)

273281 CARBONATE

65315 CARBONATES

305292 CARBONATE

(CARBONATE OR CARBONATES)

45695 POLYCARBONATE

54169 POLYCARBONATES

64390 POLYCARBONATE

(POLYCARBONATE OR POLYCARBONATES)

9198 ISOPHORONE

38 ISOPHORONES

9207 ISOPHORONE

(ISOPHORONE OR ISOPHORONES)

8578 ISOPHTHALATE

241 ISOPHTHALATES

8684 ISOPHTHALATE

(ISOPHTHALATE OR ISOPHTHALATES)

93060 TEREPHTHALATE

2024 TEREPHTHALATES

93422 TEREPHTHALATE

(TEREPHTHALATE OR TEREPHTHALATES)

69330 BISPHENOL

4723 BISPHENOLS

70727 BISPHENOL

## (BISPHENOL OR BISPHENOLS)

5 L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE OR  
ISOPHTHALATE OR TEREPHTHALATE OR BISPHENOL)

=> d all 1-5

L4 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:717332 CAPLUS

DN 135:257980

ED Entered STN: 02 Oct 2001

TI Acrylic polymer-based plastisol compositions with good flowability,  
storage stability, and processability

IN Oba, Yoichi; Hashimoto, Hitoshi; Tashiro, Toshiya; Iwasa, Takahiro

PA Asahi Kagaku Kenkyusho K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L033-04

ICS C08K005-101; C08K005-521

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001270971	A2	20011002	JP 2000-85532	20000327
PRAI	JP 2000-85532		20000327		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001270971	ICM	C08L033-04
	ICS	C08K005-101; C08K005-521
	IPCI	C08L0033-04 [ICM,7]; C08K0005-101 [ICS,7]; C08K0005-521 [ICS,7]

AB The compns., useful for strippable soldering \*\*\*masks\*\*\*, spacers for  
membrane keyboards, etc., contain acrylic polymer powders and condensed  
phosphate esters as plasticizers. Thus, 100 parts F 320 (acrylic polymer  
powder) was mixed with 120 parts \*\*\*resorcinol\*\*\* bis(di-Ph phosphate)  
to give a plastisol showing good film-forming property, storage stability,  
low plasticizer volatilization at .ltoreq.319.degree..

ST plastisol acrylic polymer plasticizer condensed phosphate;

\*\*\*resorcinol\*\*\* phosphate plasticizer acrylic polymer plastisol

IT Plasticizers

(condensed phosphates; acrylic polymer-based plastisol compns. with  
good flowability, storage stability, and processability)

IT Fatty acids, uses

RL: MOA (Modifier or additive use); USES (Uses)

(hydroxy, esters; acrylic polymer-based plastisol compns. with good  
flowability, storage stability, and processability)

IT Soldering

( \*\*\*masks\*\*\*; acrylic polymer-based plastisol compns. with good  
flowability, storage stability, and processability)

IT Electric switches

(spacers; acrylic polymer-based plastisol compns. with good  
flowability, storage stability, and processability)

IT 101-34-8 151-13-3, Butyl ricinoleate 26402-31-3, Propylene glycol  
monoricinoleate 67025-99-4, Trimethylolpropane monoricinoleate  
83707-54-4, Sorbitan monoricinoleate

RL: MOA (Modifier or additive use); USES (Uses)

(acrylic polymer-based plastisol compns. with good flowability, storage  
stability, and processability)

IT 80-62-6D, Methyl methacrylate, polymers 9011-14-7, Poly(methyl  
methacrylate) 179241-49-7, F 301 260248-10-0, F 340 299432-92-1, F  
303

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
engineered material use); USES (Uses)

(acrylic polymer-based plastisol compns. with good flowability, storage  
stability, and processability)

IT 5945-33-5, \*\*\*Bisphenol\*\*\* A bis(diphenyl phosphate) 57583-54-7,

\*\*\*Resorcinol\*\*\* bis(diphenyl phosphate) 93981-32-9, \*\*\*Bisphenol\*\*\*

A bis(dicresyl phosphate)

RL: MOA (Modifier or additive use); USES (Uses)

(plasticizer; acrylic polymer-based plastisol compns. with good flowability, storage stability, and processability)

L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1998:486456 CAPLUS  
DN 129:183510  
ED Entered STN: 05 Aug 1998  
TI Quantitative separation of zinc traces from cadmium matrixes by  
solid-phase extraction with polyurethane foam  
AU De Jesus, Djane Santiago; De Carvalho, Marcelo Souza; Costa, Antonio Celso  
Spinola; Ferreira, Sergio Luis Costa  
CS Centro Federal de Educacao Tecnologica da Bahia, Salvador, Brazil  
SO Talanta (1998), 46(6), 1525-1530  
CODEN: TLNTA2; ISSN: 0039-9140  
PB Elsevier Science B.V.  
DT Journal  
LA English  
CC 79-4 (Inorganic Analytical Chemistry)  
AB A system for sepn. of Zn traces from large amts. of Cd is proposed. It is based on the solid-phase extn. of the Zn as thiocyanate complexes by the polyurethane foam. The following parameters were studied: effect of pH and of the thiocyanate concn. on the Zn extn., shaking time required for quant. extn., amt. of PU foam necessary for complete extn., conditions for the sepn. of Zn from Cd, influence of other cations and anions on the Zn sorption by PU foam, and required conditions for back extn. of Zn from the PU foam. Zn traces can be sepd. from large amts. of Cd at pH 3.0 +/- 0.50, with the range of thiocyanate concn. from 0.15 to 0.20 mol L<sup>-1</sup>, and the shaking time of 5 min. The back extn. of Zn can be done by shaking it with H<sub>2</sub>O for 10 min. Ca, Ba, Sr, Mg, Al, Ni and Fe(II) are efficiently sepd. Fe(III), Cu(II) and Co(II) are extd. simultaneously with Zn, but the Fe redn. with ascorbic acid and the use of citrate to \*\*\*mask\*\*\* Cu(II) and Co(II) increase the selectivity of the Zn extn. The anions nitrate, chloride, sulfate, acetate, thiosulfate, tartrate, oxalate, fluoride, citrate, and \*\*\*carbonate\*\*\* do not affect the Zn extn. Phosphate and EDTA must be absent. The method proposed was applied to det. Zn in Cd salts using 4-(2-pyridylazo)- \*\*\*resorcinol\*\*\* (PAR) as a spectrophotometric reagent. The result achieved did not show significant difference in the accuracy and precision (95% confidence level) with those obtained by ICP-AES anal.  
ST zinc sepn cadmium solid phase extn; polyurethane foam zinc sepn cadmium SFE  
IT Polyurethanes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(quant. sepn. of zinc traces from cadmium matrixes by solid-phase extn. with polyurethane foam)  
IT Extraction  
(solid-phase; quant. sepn. of zinc traces from cadmium matrixes by solid-phase extn. with polyurethane foam)  
IT 333-20-0, Potassium thiocyanate  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(in quant. sepn. of zinc traces from cadmium matrixes by solid-phase extn. with polyurethane foam)  
IT 543-90-8, Cadmium acetate 7440-43-9, Cadmium, analysis 10124-36-4, Cadmium sulfate  
RL: AMX (Analytical matrix); ANST (Analytical study)  
(quant. sepn. of zinc traces from cadmium matrixes by solid-phase extn. with polyurethane foam)  
IT 7440-66-6, Zinc, analysis  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
(quant. sepn. of zinc traces from cadmium matrixes by solid-phase extn. with polyurethane foam)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (5) Braun, T; Anal Chim Acta 1978, V99, P1 CAPLUS
- (6) Braun, T; Anal Chim Acta 1982, V134, P321 CAPLUS
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- (24) Wess, R; Microchem J 1969, V14, P318

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1979:549511 CAPLUS

DN 91:149511

ED Entered STN: 12 May 1984

TI Improvements in \*\*\*masks\*\*\*

IN Wolf, Horst

PA Hoechst A.-G., Fed. Rep. Ger.

SO S. African, 20 pp.

CODEN: SFXAXB

DT Patent

LA English

IC G03B027-28

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	ZA 7802739	A	19790530	ZA 1978-2739	19780512
	DE 2721687	C2	19861120	DE 1977-2721687	19770513
	NL 7805046	A	19781115	NL 1978-5046	19780510
	GB 1603359	A	19811125	GB 1978-18659	19780510
	SE 7805429	A	19781114	SE 1978-5429	19780511
PRAI	DE 1977-2721687	A	19770513		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
ZA 7802739	IC	G03B027-28
	IPCI	G03B0027-28
DE 2721687	IPCI	G03C0005-08 [ICM,4]; G03F0001-04 [ICS,4]
NL 7805046	IPCI	G03B0027-28; G03F0009-00; G03F0001-04
GB 1603359	IPCI	G03C0005-00
SE 7805429	IPCI	G03C0005-00; G03F0001-00

AB A copying process using a \*\*\*mask\*\*\* and the prodn. of this \*\*\*mask\*\*\* are discussed. The \*\*\*mask\*\*\* is produced by imagewise exposure under a master of a material composed of polymeric org. carrier film, a metallic cover foil, and a light-sensitive layer. The exposed light-sensitive layer is developed to yield a pos. or a neg. image. Particular contours corresponding to a desired partial area of the image produced in this manner are incised into the cover foil, and .gtoreq.1 partial area of the cover foil enclosed by such an incised line is stripped off from the carrier film. Thus, a 0.15 poly(ethylene \*\*\*terephthalate\*\*\* ) support whose surfaces had been treated to render them antistatic was laminated with a 0.03 nm layer of Al with an acrylic resin adhesive, and a light-sensitive layer composed of MeOAc 70, EtOH 30, H2O 5, 1-diazo-2-naphthol-4-sulfonic acid 0.6, \*\*\*resorcinol\*\*\* 0.6, glycol Me phthalate 0.6, ethylene glycol mono-Me ether 5, and cellulose acetate 5 parts was coated thereon. This layer was then exposed and developed by applying a 10% aq. monoethanolamine soln. The image was then further processed by incise and stripping to give the required

ST \*\*\*mask\*\*\*  
IT \*\*\*photomask\*\*\* prodn photosensitive material

IT (photosensitive material and process for fabrication of)  
IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(photosensitive materials contg., for \*\*\*photomasks\*\*\* prodn.)  
 IT 7440-31-5, uses and miscellaneous  
 RL: USES (Uses)  
 (photosensitive material contg. layer of, for \*\*\*photomask\*\*\*  
 prodn.)  
 IT 19778-85-9 65846-95-9  
 RL: USES (Uses)  
 (photosensitive material contg., for \*\*\*photomask\*\*\* prodn.)  
 IT 7440-50-8, uses and miscellaneous  
 RL: USES (Uses)  
 (photosensitive materials contg. layer of, for \*\*\*photomask\*\*\*  
 prodn.)  
 IT 108-46-3, uses and miscellaneous 109-86-4 131-56-6 548-62-9  
 1096-84-0 1143-72-2 2481-94-9 6192-52-5 9004-35-7 16501-01-2  
 20541-54-2 71510-01-5  
 RL: USES (Uses)  
 (photosensitive materials contg., for \*\*\*photomasks\*\*\* prodn.)  
 IT 7429-90-5, uses and miscellaneous  
 RL: USES (Uses)  
 (photosensitive materials with layers of, for \*\*\*photomasks\*\*\*  
 prodn.)

L4 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1972:60745 CAPLUS  
 DN 76:60745  
 ED Entered STN: 12 May 1984  
 TI Vulcanizable compositions  
 IN Corish, Patrick J.; Kirkham, Malcolm C.  
 PA Dunlop Holdings Ltd.  
 SO Ger. Offen., 11 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC C08C  
 CC 38 (Elastomers, Including Natural Rubber)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2114745	A	19711014	DE 1971-2114745	19710326
	GB 1349740	A	19740410	GB 1970-14735	19700326
	FR 2085075	A5	19711217	FR 1971-10361	19710324
PRAI	GB 1970-14735	A	19700326		
	GB 1970-49903	A	19701021		
	GB 1970-49904	A	19701021		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 2114745	IC	C08C
	IPCI	C08C0009-00
GB 1349740	IPCI	C08C0011-40
FR 2085075	IPCI	C08C0009-00; C08C0011-00; B29H0005-00

AB The title compns., useful in the tire manuf., contain natural rubber and  
 \*\*\*masked\*\*\* diisocyanate, e.g. p-nitrosophenol-methylenedi-p-phenylene  
 diisocyanate adduct (I), \*\*\*bisphenol\*\*\* -methylenedi-p-phenylene  
 diisocyanate adduct (II), and (or) \*\*\*resorcinol\*\*\*  
 -methylenedi-p-phenylene diisocyanate adduct, have long scorch times and  
 favorable mech. properties after crosslinking. Thus, a mixt. of natural  
 rubber 100.0, HAF carbon black 50, naphthenic oil (Edilex 27) 5.0,  
 CaO-wax-oil dispersion (Calaxol W 3) 5.0, (Et2NCS2)2Zn 1.0, I 4.0, and II  
 (Hylene MP) 8.75 parts had Mooney scorch time 7.0 min at 120.deg., and  
 tensile strength 205 kg/cm2, elongation at break 395%, hardness 63.deg.BS,  
 resilience 56% at 50.deg., and 300% modulus 154 kg/cm2 after hardening 50  
 min at 150.deg..

ST rubber natural isocyanate crosslinked  
 IT Vulcanizing agents  
 (blocked isocyanates, for rubber)  
 IT Rubber, natural, uses and miscellaneous  
 (vulcanizing agents for, blocked isocyanates as)  
 IT 28266-21-9 35385-18-3 35385-19-4  
 RL: USES (Uses)  
 (vulcanizing agents for rubber)

AN 1966:43010 CAPLUS

DN 64:43010

OREF 64:7970a-d

ED Entered STN: 22 Apr 2001

TI Complexometric determination of multicationic drug mixtures

AU Koval'chuk, T. V.; Kogan, O. M.

SO Farmatsevtichnii Zhurnal (Kiev) (1965), 20(2), 29-35

CODEN: FRZKAP; ISSN: 0367-3057

DT Journal

LA Ukrainian

CC 30 (Pharmaceuticals)

AB Procedures are described for (1) the detn. of ZnSO<sub>4</sub> and Al alum in a drug contg. both salts based on the titrn. of ZnSO<sub>4</sub> with 0.05M Trilon B using Xylenol Orange as indicator, after \*\*\*masking\*\*\* the Al<sup>3+</sup> ions with NaF; (2) the detn. of ZnSO<sub>4</sub>, Al alum, and CuSO<sub>4</sub> in a drug, consisting of the titrn. of the excess of a standardized Trilon B soln. with standardized ZnSO<sub>4</sub> soln. with Chromogene Black as indicator, after screening Al<sup>3+</sup> ions with NaF and Cu<sup>++</sup> ions with a mixt. of NH<sub>4</sub>OAc and Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>; (3) the detn. of ZnSO<sub>4</sub> and Pb(OAc)<sub>2</sub> in a drug, based on trilonometric titrn. of the former according to a method described in Russian Pharmacopeia IX. Pb(OAc)<sub>2</sub> was estd. after sepn. of ZnSO<sub>4</sub>, by the titrn. with Trilon B; (4) the detn. of CaCO<sub>3</sub>, Fe<sup>++</sup> lactate, and Ca<sup>++</sup> gluconate in a drug, based on the trilonometric titrn. of the Ca salts after screening Fe<sup>++</sup> ions with tartaric acid; (5) the detn. of CaCO<sub>3</sub> MgO, and BiONO<sub>3</sub> in a drug also contg. NaHCO<sub>3</sub>, based on the trilonometric titrn. of Ca<sup>++</sup> and Bi<sup>3+</sup> ions with murexide and Xylenol Orange, resp., as indicators. The joint detn. of the 3 components was carried out by the titrn. with a Trilon B soln. with Chromogene Blue as indicator; the MgO content was computed from the difference between the results of this and the two preceding titrns.; (6) the detn. of HgO and BiONO<sub>3</sub> in an ointment also contg. \*\*\*resorcinol\*\*\* and petrolatum, based on a joint trilonometric estn. of both components using 0.05M Trilon B soln. in excess, Chromogene Black indicator and standardized ZnSO<sub>4</sub> soln. as a titrant followed by a sep. estn. of BiONO<sub>3</sub> by the titrn. of an aliquot with the Trilon B soln. using Pyrocatechol Violet as indicator; and (7) the detn. of BiONO<sub>3</sub> and Dermatol in a powder contg. also anesthesin and belladonna ext., based on different soly. of the components in alk. soln. Exptl. details are given for each detn.

IT Belladonna and(or) Atropa

(Dermatol detn. in prepn. contg.)

IT 94-09-7, Benzoic acid, p-amino-, ethyl ester

(Dermatol detn. in prepn. contg.)

IT 301-04-2, Lead acetate, Pb(OAc)<sub>2</sub> 5673-35-8, Gallic acid, bismuth salt

21908-53-2, Mercury oxide, HgO

(detn. in pharmaceuticals)

IT 144-55-8, Sodium \*\*\*carbonate\*\*\*, NaHCO<sub>3</sub> 299-28-5, Calcium gluconate

471-34-1, Calcium \*\*\*carbonate\*\*\* 1309-48-4, Magnesium oxide

1707-15-9, Isonicotinic acid, 2,2'-methylenedihydrazide 2779-55-7,

Phthalaldehydic acid, 5,6-dimethoxy-, isonicotinoylhydrazide 3688-05-9,

Isonicotinic acid, [3-(2-furyl)-1-methylallylidene]hydrazide 7100-07-4,

Iron lactate 7733-02-0, Zinc sulfate 7758-98-7, Copper sulfate

10043-01-3, Aluminum sulfate 66120-60-3, Bismuth nitrate oxide

(detn. of, in pharmaceuticals)

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(FILE 'HOME' ENTERED AT 11:23:01 ON 30 JAN 2006)

FILE 'CAPLUS' ENTERED AT 11:23:08 ON 30 JAN 2006

L1 28980 S RESORCINOL

L2 1449 S L1 AND (UV OR ULTRAVIOLET)

L3 200 S L1 AND (MASK? OR PHOTOMASK?)

L4 5 S L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O

=&gt; s l2 and (arylate or carbonate or polycarbonate or isophorone or isophthalate or terephthalate

310 ARYLATE

111 ARYLATES

395 ARYLATE

(ARYLATE OR ARYLATES)

273281 CARBONATE



65315 CARBONATES  
 305292 CARBONATE  
     (CARBONATE OR CARBONATES)  
 45695 POLYCARBONATE  
 54169 POLYCARBONATES  
 64390 POLYCARBONATE  
     (POLYCARBONATE OR POLYCARBONATES)  
 9198 ISOPHORONE  
     38 ISOPHORONES  
 9207 ISOPHORONE  
     (ISOPHORONE OR ISOPHORONES)  
 8578 ISOPHTHALATE  
     241 ISOPHTHALATES  
 8684 ISOPHTHALATE  
     (ISOPHTHALATE OR ISOPHTHALATES)  
 93060 TEREPHTHALATE  
     2024 TEREPHTHALATES  
 93422 TEREPHTHALATE  
     (TEREPHTHALATE OR TEREPHTHALATES)  
 69330 BISPHENOL  
     4723 BISPHENOLS  
 70727 BISPHENOL  
     (BISPHENOL OR BISPHENOLS)

L5 136 L2 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE OR  
 ISOPHTHALATE OR TEREPHTHALATE OR BISPHENOL)

=> s 15 not 14

L6 136 L5 NOT L4

=> s 16 and (refractive or refraction or fries)

74892 REFRACTIVE  
     6 REFRACTIVES  
 74896 REFRACTIVE  
     (REFRACTIVE OR REFRACTIVES)  
 33699 REFRACTION  
     1108 REFRACTIONS  
 34120 REFRACTION  
     (REFRACTION OR REFRACTIONS)  
 2841 FRIES

L7 5 L6 AND (REFRACTIVE OR REFRACTION OR FRIES)

=> d all 1-5

L7 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2003:524038 CAPLUS  
 DN 139:86127  
 ED Entered STN: 09 Jul 2003  
 TI Epoxy-amine compositions containing latent catalysts undergoing  
 intramolecular rearrangement upon irradiation  
 IN Rappoport, Leonid; Vainer, Alex; Yam, Aleksander  
 PA Polymeright, Inc., USA  
 SO U.S., 7 pp.  
     CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C08F002-46  
     ICS C08F002-50  
 INCL 522170000; 522168000; 522169000; 522181000; 522014000; 522065000;  
     522068000; 522069000; 522031000; 522030000  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6590011	B1	20030708	US 2001-846448	20010430
PRAI	US 2000-200753P	P	20000501		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6590011	ICM	C08F002-46
	ICS	C08F002-50
	INCL	522170000; 522168000; 522169000; 522181000; 522014000; 522065000; 522068000; 522069000; 522031000; 522030000

IPCI C08F0002-46 [ICM,7]; C08F0002-50 [ICS,7]  
NCL 522/170.000; 522/006.000; 522/007.000; 522/014.000;  
522/030.000; 522/031.000; 522/038.000; 522/065.000;  
522/068.000; 522/069.000; 522/168.000; 522/169.000;  
522/181.000  
ECLA C08G059/18; C08G059/68

AB An epoxy-amine compn. comprises (a) an epoxy resin, (b) an amine curative, and (c) a latent catalyst that generates an active catalyst of epoxy-amine interaction upon exposure to a radiation source by undergoing an intramol. rearrangement. The active catalyst is generated by undergoing a \*\*\*Fries\*\*\* rearrangement of the latent catalyst upon exposure to visible light, \*\*\*UV\*\*\* or electron beam radiation. The latent catalyst is selected from esters of phenols and esters of derivs. of phenols, such as acetylsalicylic acid, \*\*\*resorcinol\*\*\* monoacetate, \*\*\*resorcinol\*\*\* diacetate, \*\*\*resorcinol\*\*\* monobenzoate, Ph acetate, Ph benzoate, naphthyl acetate, and diacetate of \*\*\*bisphenol\*\*\* A. Thus, a sample comprising novolac epoxy resin (DEN 431) (5) with epoxy equiv. wt. of 172-179, dimethylthiotoluenediamine (Ethacure 300) (1.5), and \*\*\*resorcinol\*\*\* monoacetate (1 g) was subjected to \*\*\*UV\*\*\* radiation for 30 min while keeping temp. of the sample below 50.degree.. After exposure, the sample was kept at ambient temp. for 60 min and at 50.degree. for 5 h producing a cured solid product. A \*\*\*resorcinol\*\*\* monoacetate-free sample subjected to the same procedure remained liq.

ST phenol ester latent catalyst epoxy resin amine curative compn  
IT Phenolic resins, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(epoxy, novolak; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Crosslinking agents  
\*\*\*Fries\*\*\* rearrangement  
Light  
\*\*\*UV\*\*\* radiation  
(epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Epoxy resins, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Amines, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Electron beams  
(irradiation; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Crosslinking catalysts  
(latent; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Epoxy resins, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(phenolic, novolak; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT Crosslinking catalysts  
(photosensitizers; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT 75389-89-8, Diethyltoluenediamine 106264-79-3, Ethacure 300  
RL: TEM (Technical or engineered material use); USES (Uses)  
(crosslinking agent; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT 26764-44-3D, derivs.  
RL: TEM (Technical or engineered material use); USES (Uses)  
(crosslinking agents; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT 50-78-2, Acetylsalicylic acid 93-99-2, Phenyl benzoate 102-29-4, \*\*\*Resorcinol\*\*\* monoacetate 108-58-7, \*\*\*Resorcinol\*\*\* diacetate 108-95-2D, Phenol, derivs., esters 122-79-2, Phenyl acetate 136-36-7, \*\*\*Resorcinol\*\*\* monobenzoate 10192-62-8, \*\*\*Bisphenol\*\*\* A diacetate 29692-55-5, Naphthyl acetate  
RL: CAT (Catalyst use); USES (Uses)

(epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT 25068-38-6, Epon 828 37348-52-0, DEN 431  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

IT 119-61-9, Benzophenone, uses 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (photosensitizer; epoxy-amine compns. contg. latent catalysts undergoing intramol. rearrangement upon irradiation.)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Azarnia; US 5393806 A 1995 CAPLUS
- (2) Bertram; US 4925901 A 1990 CAPLUS
- (3) Corley; US 4668758 A 1987 CAPLUS
- (4) Debergalis; US 4636431 A 1987
- (5) Gupta; US 4749726 A 1988 CAPLUS
- (6) Gupta; US 4945001 A 1990 CAPLUS
- (7) Ham; US 4540750 A 1985 CAPLUS
- (8) Hardy; US 5541000 A 1996 CAPLUS
- (9) Kawachi; US 5892118 A 1999 CAPLUS
- (10) Kirchmayr; US 4510290 A 1985 CAPLUS
- (11) Kirchmayr; US 4636575 A 1987 CAPLUS
- (12) Pond; US 4000148 A 1976 CAPLUS
- (13) Qureshi; US 4593056 A 1986 CAPLUS
- (14) Shimp; US 4447586 A 1984 CAPLUS
- (15) Starkey; US 5516813 A 1996 CAPLUS
- (16) Trecker; US 3622482 A 1971 CAPLUS
- (17) Wiggins; US 4775736 A 1988 CAPLUS

L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:211094 CAPLUS

DN 138:402741

ED Entered STN: 18 Mar 2003

TI Weatherable polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic

AU Suriano, Joseph A.; Siclovan, Tiberiu M.; Pickett, James E.; Brunelle, Daniel J.; O'Neil, Gregory A.; Zhou, Hongyi

CS Polymer and Specialty Materials Technologies, GE Global Research, Niskayuna, NY, 12309, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 748-749  
 CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal; (computer optical disk)

LA English

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 37

AB \*\*\*Polycarbonates\*\*\* and polyesters, esp. poly(alkylene dicarboxylates), and blends thereof are widely employed classes of polymers, in part because of their excellent phys. properties including high impact strength. However, their long-term color and gloss instability, weatherability, is a major problem. Yellowing of \*\*\*polycarbonates\*\*\* and polyesters is caused largely by the action of \*\*\*UV\*\*\* radiation, frequently designated as photo-yellowing. Polyesters of \*\*\*resorcinol\*\*\* with mixts. of \*\*\*isophthalate\*\*\* and \*\*\*terephthalate\*\*\* chain members typically have good weathering properties. On exposure to \*\*\*UV\*\*\* light these polymers undergo photochem. \*\*\*Fries\*\*\* rearrangement converting at least a portion of the polymer from polyarylate to o-hydroxybenzophenone-type chain members. The o-hydroxybenzophenone-type chain members act to screen further \*\*\*UV\*\*\* light and protect \*\*\*UV\*\*\* -sensitive components. GE Plastics has recently invented a novel polyarylate-co-\*\*\*polycarbonate\*\*\*, SOLLX, which has excellent gloss and color stability on exposure to \*\*\*UV\*\*\* light. In this paper we wish to report on synthetic approaches to these materials, a simplified reaction mechanism, and the phys. properties of this new engineering thermoplastic.

ST weathering polyarylate \*\*\*polycarbonate\*\*\* engineering thermoplastic

IT Polyesters, properties  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

( \*\*\*polycarbonate\*\*\* -, block; prepn. and mech. properties of weathered polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic)

IT \*\*\*Polycarbonates\*\*\* , properties  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyester-, block; prepn. and mech. properties of weathered polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic)

IT Elongation, mechanical  
 Glass transition temperature  
 Impact strength  
 Luster  
 \*\*\*Refractive\*\*\* index  
 Tensile strength  
 (prepn. and mech. properties of weathered polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic)

IT Polymer degradation  
 (weathering; prepn. and mech. properties of weathered polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic)

IT 265997-77-1P, \*\*\*Bisphenol\*\*\* A-isophthaloyl dichloride-phosgene- \*\*\*resorcinol\*\*\* -terephthaloyl dichloride block copolymer  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and mech. properties of weathered polyarylate-CO- \*\*\*polycarbonate\*\*\* engineering thermoplastic)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Brunelle, D; US 6265522 2001 CAPLUS  
 (2) Brunelle, D; US 6291589 2001 CAPLUS  
 (3) Brunelle, D; US 6294647 2001 CAPLUS  
 (4) Brunelle, D; US 6306507 2001 CAPLUS  
 (5) Cohen, S; Jour Poly Sci 1971, V9(A-1), P3263  
 (6) Webb, J; US 5916997 1999 CAPLUS  
 (7) Webb, J; US 6143839 2000 CAPLUS

L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2003:186826 CAPLUS  
 ED Entered STN: 11 Mar 2003  
 TI Weatherable polyarylate-co- \*\*\*polycarbonate\*\*\* engineering thermoplastic

AU Suriano, Joseph A.; Siclovan, Tiberiu M.; Pickett, James E.; Brunelle, Daniel J.; O'Neil, Gregory A.; Zhou, Hongyi  
 CS Polymer and Specialty Chemicals Technologies, GE Global Research, Niskayuna, NY, 12309, USA  
 SO Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), POLY-674 Publisher: American Chemical Society, Washington, D. C.  
 CODEN: 69DSA4  
 DT Conference; Meeting Abstract  
 LA English  
 AB \*\*\*Polycarbonates\*\*\* and polyesters, esp. poly(alkylene dicarboxylates), and blends thereof are widely employed classes of polymers, in part because of their excellent phys. properties including high impact strength. However, their long-term color and gloss instability, "weatherability", is a major problem. Yellowing of \*\*\*polycarbonates\*\*\* and polyesters is caused largely by the action of \*\*\*UV\*\*\* radiation, frequently designated as "photoyellowing". Polyesters of \*\*\*resorcinol\*\*\* with mixts. of \*\*\*isophthalate\*\*\* and \*\*\*terephthalate\*\*\* chain members typically have good weathering properties. On exposure to \*\*\*UV\*\*\* light these polymers undergo photochem. \*\*\*Fries\*\*\* rearrangement converting at least a portion of the polymer from polyarylate to o-hydroxybenzophenone-type chain members. The o-hydroxybenzophenone-type chain members act to screen further \*\*\*UV\*\*\* light and protect \*\*\*UV\*\*\* -sensitive components. GE Plastics has recently invented a novel polyarylate-co- \*\*\*polycarbonate\*\*\*, SOLLX, which has excellent gloss and color stability on exposure to \*\*\*UV\*\*\* light. In this paper we wish to report on synthetic approaches to these materials, a simplified reaction mechanism, and the phys. properties of this new engineering thermoplastic.

L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1973:160979 CAPLUS  
 DN 78:160979  
 ED Entered STN: 12 May 1984

TI Transparent \*\*\*ultraviolet\*\*\* -barrier coatings  
 AU Cohen, S. M.; Young, R. H.; Markhart, A. H.  
 CS Plast. Prod. Resins Div., Monsanto Co., Springfield, MA, USA  
 SO Papers presented at [the] Meeting - American Chemical Society, Division of  
 Organic Coatings and Plastics Chemistry (1971), 31(2), 637-47  
 CODEN: ACOCAO; ISSN: 0096-512X  
 DT Journal  
 LA English  
 CC 42-9 (Coatings, Inks, and Related Products)  
 AB Polyesters that underwent a photochem. \*\*\*Fries\*\*\* rearrangement to  
 polymeric o-hydroxybenzophenones, e.g. 2:1:1 \*\*\*bisphenol\*\*\*  
 A-isophthaloyl chloride-terephthaloyl chloride polymer [25639-68-3] and  
 1:1:2 isophthaloyl chloride-terephthaloyl chloride- \*\*\*resorcinol\*\*\*  
 polymer [40472-46-6], were effective \*\*\*UV\*\*\* -barriers for clear  
 coatings. The polyesters rearranged under \*\*\*UV\*\*\* irradiation to form a  
 thin skin, which was opaque to \*\*\*UV\*\*\* light but visually  
 transparent. As the skin degraded under extended irradiation, more of the  
 exposed underlying polyester layer rearranged to compensate for the loss.  
 ST arom polyester \*\*\*UV\*\*\* resistant; hydroxybenzophenone polymer  
 \*\*\*UV\*\*\* resistant; isophthaloyl polymer \*\*\*UV\*\*\* resistant;  
 terephthaloyl polymer \*\*\*UV\*\*\* resistant; phenol terephthaloyl polymer  
 coating; \*\*\*resorcinol\*\*\* polyester coating  
 IT Polyesters, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 ( \*\*\*Fries\*\*\* rearrangement of, photochem.)  
 IT Light stabilizers  
 ( \*\*\*UV\*\*\* , polymeric hydroxybenzophenones, by \*\*\*Fries\*\*\*  
 rearrangement of polyester coatings)  
 IT Coating materials  
 ( \*\*\*UV\*\*\* -barrier transparent, from polyesters)  
 IT \*\*\*Ultraviolet\*\*\* light  
 (barrier coatings, from \*\*\*Fries\*\*\* rearrangement of polyesters to  
 polymeric hydroxybenzophenones)  
 IT \*\*\*Fries\*\*\* rearrangement  
 (photochem., of polyesters to polymeric hydroxybenzophenones, in  
 \*\*\*UV\*\*\* -barrier coatings)  
 IT 25639-68-3 40472-46-6  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, \*\*\*UV\*\*\* -barrier, \*\*\*Fries\*\*\* rearrangement in)  
 L7 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1967:65993 CAPLUS  
 DN 66:65993  
 ED Entered STN: 12 May 1984  
 TI \*\*\*Fries\*\*\* rearrangement of polyphenyl esters to polyhydroxy phenones  
 AU Bellus, Daniel; Manasek, Zdenek; Hrdlovic, Pavol; Slama, Peter  
 CS Slovak Acad. Sci., Bratislava, Czech.  
 SO Journal of Polymer Science, Polymer Symposia (1966), No. 16, 267-77  
 CODEN: JPYCAQ; ISSN: 0360-8905  
 DT Journal  
 LA English  
 CC 35 (Synthetic High Polymers)  
 AB Poly(m-phenylene adipate), poly(isopropylidenedi-p-phenylene adipate),  
 poly(isopropylidenedi-p-phenylene thiapimelate), poly[m-  
 phenylene/isopropylidene-p-phenylene (70:30) \*\*\*isophthalate\*\*\* ],  
 poly(mphenylene \*\*\*isophthalate\*\*\* ), and poly(isopropylidenedi-p-  
 phenylene \*\*\*isophthalate\*\*\* ) (I) were rearranged to polyhydroxy  
 phenones in PhNO<sub>2</sub> soln. or a melt, using AlCl<sub>3</sub>, TiCl<sub>4</sub>, and SnCl<sub>4</sub> as  
 catalysts, or in CHCl<sub>3</sub> using \*\*\*uv\*\*\* light as a catalyst. In the  
 rearrangement of I in PhNO<sub>2</sub> with AlCl<sub>3</sub> catalysis, the mol. wt. decreased  
 sharply after a short time, and cross-linking occurred when the ester  
 group content reached 55-65 mol. %. A characteristic ir absorption band  
 appeared at 1638 cm.<sup>-1</sup> and increased in intensity with reaction time. The  
 ester group content decrease was 1st order only during the initial stages,  
 unlike the \*\*\*Fries\*\*\* rearrangement. The color of the product went  
 from light yellow through brown, and finally turned black in most cases.  
 The ir absorption in the other polymers varied from 1636 to 1656 cm.<sup>-1</sup>  
 \*\*\*Uv\*\*\* -catalyzed rearrangement of low-mol.-wt. model compds. (p-cresyl  
 benzoate and \*\*\*resorcinol\*\*\* monobenzoate) gave quantum yields of  
 0.55 and 0.36 mole-einstein<sup>-1</sup>, resp., for 254 m.mu. radiation. A  
 mechanism for the rearrangement is postulated.  
 ST \*\*\*RESORCINOL\*\*\* POLYESTERS; POLYESTERS AROM \*\*\*FRIES\*\*\*

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REARRANGEMENT; REARRANGEMENT POLYESTERS AROM; ***FRIES***
REARRANGEMENT POLYESTERS; POLYHYDROXYPHENONES; POLYPHENYL ESTERS
REARRANGEMENT; ***BISPHENOL*** POLYESTERS
IT Polyesters, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
  ( ***Fries*** rearrangement of, mechanism of)
IT ***Fries*** rearrangement
  (of polyesters, mechanism of)
IT Benzenethiol, 4,4'-isopropylidenedi-, polyester with pimelic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
  ( ***Fries*** rearrangement of)
IT 25189-11-1 25212-77-5 26618-61-1 26637-46-7 29255-72-9
  31325-48-1 31325-49-2 31325-50-5 32200-90-1 32200-91-2
  32200-92-3
RL: RCT (Reactant); RACT (Reactant or reagent)
  ( ***Fries*** rearrangement of)

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FILE 'CAPLUS' ENTERED AT 11:23:08 ON 30 JAN 2006

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L1 28980 S RESORCINOL
L2 1449 S L1 AND (UV OR ULTRAVIOLET)
L3 200 S L1 AND (MASK? OR PHOTOMASK?)
L4 5 S L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O
L5 136 S L2 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O
L6 136 S L5 NOT L4
L7 5 S L6 AND (REFRACTIVE OR REFRACTION OR FRIES)

```

=> s l2 and polyester

```

253316 POLYESTER
215638 POLYESTERS
325565 POLYESTER
(POLYESTER OR POLYESTERS)

```

L8 117 L2 AND POLYESTER

=> s l8 and (mask? or photomask?)

```

113347 MASK?
14888 PHOTOMASK?

```

L9 0 L8 AND (MASK? OR PHOTOMASK?)

=> s l1 and polyester

```

253316 POLYESTER
215638 POLYESTERS
325565 POLYESTER
(POLYESTER OR POLYESTERS)

```

L10 2215 L1 AND POLYESTER

=> s l10 and (mask? or photomask?)

```

113347 MASK?
14888 PHOTOMASK?

```

L11 1 L10 AND (MASK? OR PHOTOMASK?)

=> s l10 and (uv or ultraviolet)

```

475320 UV
333 UVS
475436 UV
(UV OR UVS)
206232 ULTRAVIOLET
11 ULTRAVIOLETS
206240 ULTRAVIOLET
(ULTRAVIOLET OR ULTRAVIOLETS)
475320 UV
333 UVS
475436 UV
(UV OR UVS)
593728 ULTRAVIOLET
(ULTRAVIOLET OR UV)

```

L12 117 L10 AND (UV OR ULTRAVIOLET)

=> s l12 and (pattern6 or refractive or refraction or fries)  
6 IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> s l12 and (pattern? or refractive or refraction or fries)  
689980 PATTERN?  
74892 REFRACTIVE  
6 REFRACTIVES  
74896 REFRACTIVE  
(REFRACTIVE OR REFRACTIVES)  
33699 REFRACTION  
1108 REFRACTIONS  
34120 REFRACTION  
(REFRACTION OR REFRACTIONS)  
2841 FRIES  
L13 5 L12 AND (PATTERN? OR REFRACTIVE OR REFRACTION OR FRIES)

=> d all 1-5

L13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:211094 CAPLUS  
DN 138:402741  
ED Entered STN: 18 Mar 2003  
TI Weatherable polyarylate-CO-polycarbonate engineering thermoplastic  
AU Suriano, Joseph A.; Siclovan, Tiberiu M.; Pickett, James E.; Brunelle,  
Daniel J.; O'Neil, Gregory A.; Zhou, Hongyi  
CS Polymer and Specialty Materials Technologies, GE Global Research,  
Niskayuna, NY, 12309, USA  
SO Polymer Preprints (American Chemical Society, Division of Polymer  
Chemistry) (2003), 44(1), 748-749  
CODEN: ACPPAY; ISSN: 0032-3934  
PB American Chemical Society, Division of Polymer Chemistry  
DT Journal; (computer optical disk)  
LA English  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37  
AB Polycarbonates and \*\*\*polyesters\*\*\*, esp. poly(alkylene  
dicarboxylates), and blends thereof are widely employed classes of  
polymers, in part because of their excellent phys. properties including  
high impact strength. However, their long-term color and gloss  
instability, weatherability, is a major problem. Yellowing of  
polycarbonates and \*\*\*polyesters\*\*\* is caused largely by the action of  
\*\*\*UV\*\*\* radiation, frequently designated as photo-yellowing.  
\*\*\*Polyesters\*\*\* of \*\*\*resorcinol\*\*\* with mixts. of isophthalate and  
terephthalate chain members typically have good weathering properties. On  
exposure to \*\*\*UV\*\*\* light these polymers undergo photochem.  
\*\*\*Fries\*\*\* rearrangement converting at least a portion of the polymer  
from polyarylate to o-hydroxybenzophenone-type chain members. The  
o-hydroxybenzophenone-type chain members act to screen further \*\*\*UV\*\*\*  
light and protect \*\*\*UV\*\*\*-sensitive components. GE Plastics has  
recently invented a novel polyarylate-co-polycarbonate, SOLIX, which has  
excellent gloss and color stability on exposure to \*\*\*UV\*\*\* light. In  
this paper we wish to report on synthetic approaches to these materials, a  
simplified reaction mechanism, and the phys. properties of this new  
engineering thermoplastic.  
ST weathering polyarylate polycarbonate engineering thermoplastic  
IT \*\*\*Polyesters\*\*\*, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polycarbonate-, block; prepn. and mech. properties of weathered  
polyarylate-CO-polycarbonate engineering thermoplastic)  
IT Polycarbonates, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
( \*\*\*polyester\*\*\* -, block; prepn. and mech. properties of weathered  
polyarylate-CO-polycarbonate engineering thermoplastic)  
IT Elongation, mechanical  
Glass transition temperature  
Impact strength  
Luster  
\*\*\*Refractive\*\*\* index  
Tensile strength

(prepn. and mech. properties of weathered polyarylate-CO-polycarbonate engineering thermoplastic)

IT Polymer degradation  
(weathering; prepn. and mech. properties of weathered polyarylate-CO-polycarbonate engineering thermoplastic)

IT 265997-77-1P, Bisphenol A-isophthaloyl dichloride-phosgene-  
\*\*\*resorcinol\*\*\* -terephthaloyl dichloride block copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and mech. properties of weathered polyarylate-CO-polycarbonate engineering thermoplastic)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Brunelle, D; US 6265522 2001 CAPLUS  
(2) Brunelle, D; US 6291589 2001 CAPLUS  
(3) Brunelle, D; US 6294647 2001 CAPLUS  
(4) Brunelle, D; US 6306507 2001 CAPLUS  
(5) Cohen, S; Jour Poly Sci 1971, V9(A-1), P3263  
(6) Webb, J; US 5916997 1999 CAPLUS  
(7) Webb, J; US 6143839 2000 CAPLUS

L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:186826 CAPLUS  
ED Entered STN: 11 Mar 2003  
TI Weatherable polyarylate-co-polycarbonate engineering thermoplastic  
AU Suriano, Joseph A.; Siclovan, Tiberiu M.; Pickett, James E.; Brunelle, Daniel J.; O'Neil, Gregory A.; Zhou, Hongyi  
CS Polymer and Specialty Chemicals Technologies, GE Global Research, Niskayuna, NY, 12309, USA  
SO Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), POLY-674 Publisher: American Chemical Society, Washington, D. C.  
CODEN: 69DSA4  
DT Conference; Meeting Abstract  
LA English  
AB Polycarbonates and \*\*\*polyesters\*\*\*, esp. poly(alkylene dicarboxylates), and blends thereof are widely employed classes of polymers, in part because of their excellent phys. properties including high impact strength. However, their long-term color and gloss instability, "weatherability", is a major problem. Yellowing of polycarbonates and \*\*\*polyesters\*\*\* is caused largely by the action of \*\*\*UV\*\*\* radiation, frequently designated as "photoyellowing".  
\*\*\*Polyesters\*\*\* of \*\*\*resorcinol\*\*\* with mixts. of isophthalate and terephthalate chain members typically have good weathering properties. On exposure to \*\*\*UV\*\*\* light these polymers undergo photochem.  
\*\*\*Fries\*\*\* rearrangement converting at least a portion of the polymer from polyarylate to o-hydroxybenzophenone-type chain members. The o-hydroxybenzophenone-type chain members act to screen further \*\*\*UV\*\*\* light and protect \*\*\*UV\*\*\*-sensitive components. GE Plastics has recently invented a novel polyarylate-co-polycarbonate, SOLIX, which has excellent gloss and color stability on exposure to \*\*\*UV\*\*\* light. In this paper we wish to report on synthetic approaches to these materials, a simplified reaction mechanism, and the phys. properties of this new engineering thermoplastic.

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1973:160979 CAPLUS  
DN 78:160979  
ED Entered STN: 12 May 1984  
TI Transparent \*\*\*ultraviolet\*\*\*-barrier coatings  
AU Cohen, S. M.; Young, R. H.; Markhart, A. H.  
CS Plast. Prod. Resins Div., Monsanto Co., Springfield, MA, USA  
SO Papers presented at [the] Meeting - American Chemical Society, Division of Organic Coatings and Plastics Chemistry (1971), 31(2), 637-47  
CODEN: ACOCAO; ISSN: 0096-512X  
DT Journal  
LA English  
CC 42-9 (Coatings, Inks, and Related Products)  
AB \*\*\*Polyesters\*\*\* that underwent a photochem. \*\*\*Fries\*\*\* rearrangement to polymeric o-hydroxybenzophenones, e.g. 2:1:1 bisphenol A-isophthaloyl chloride-terephthaloyl chloride polymer [25639-68-3] and 1:1:2 isophthaloyl chloride-terephthaloyl chloride-\*\*\*resorcinol\*\*\* polymer [40472-46-6], were effective \*\*\*UV\*\*\*-barriers for clear



coatings. The \*\*\*polyesters\*\*\* rearranged under \*\*\*UV\*\*\* irradiation to form a thin skin, which was opaque to \*\*\*UV\*\*\* light but visually transparent. As the skin degraded under extended irradiation, more of the exposed underlying \*\*\*polyester\*\*\* layer rearranged to compensate for the loss.

ST arom \*\*\*polyester\*\*\* \*\*\*UV\*\*\* resistant; hydroxybenzophenone polymer \*\*\*UV\*\*\* resistant; isophthaloyl polymer \*\*\*UV\*\*\* resistant; terephthaloyl polymer \*\*\*UV\*\*\* resistant; phenol terephthaloyl polymer coating; \*\*\*resorcinol\*\*\* \*\*\*polyester\*\*\* coating

IT \*\*\*Polyesters\*\*\*, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
( \*\*\*Fries\*\*\* rearrangement of, photochem.)

IT Light stabilizers  
( \*\*\*UV\*\*\*, polymeric hydroxybenzophenones, by \*\*\*Fries\*\*\* rearrangement of \*\*\*polyester\*\*\* coatings)

IT Coating materials  
( \*\*\*UV\*\*\* -barrier transparent, from \*\*\*polyesters\*\*\* )

IT \*\*\*Ultraviolet\*\*\* light  
(barrier coatings, from \*\*\*Fries\*\*\* rearrangement of \*\*\*polyesters\*\*\* to polymeric hydroxybenzophenones)

IT \*\*\*Fries\*\*\* rearrangement  
(photochem., of \*\*\*polyesters\*\*\* to polymeric hydroxybenzophenones, in \*\*\*UV\*\*\* -barrier coatings)

IT 25639-68-3 40472-46-6  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, \*\*\*UV\*\*\* -barrier, \*\*\*Fries\*\*\* rearrangement in)

L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1972:73017 CAPLUS

DN 76:73017

ED Entered STN: 12 May 1984

TI Photopolymerizable acrylic compositions containing rearrangeable \*\*\*ultraviolet\*\*\* stabilizer precursors

IN Zunker, David W.

PA du Pont de Nemours, E. I., and Co.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

IC C08F; C08G

INCL 204159160

CC 35 (Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3616367	A	19711026	US 1968-778827	19681125
PRAI	US 1968-778827	A	19681125		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3616367	IC	C08F; C08G
	INCL	204159160
	IPCI	C08F0045-58; C08G0051-58
	NCL	522/021.000; 522/011.000; 522/028.000; 522/079.000; 522/120.000; 522/121.000; 522/907.000; 524/290.000; 524/291.000; 524/336.000; 524/853.000; 525/305.000; 525/309.000

AB A photopolymerizable compn. is described contg. monoesters and \*\*\*polyesters\*\*\* of acrylic acid or methacrylic acid, 50-1000 ppm of a photopolymer initiator, 5-100 ppm polymer inhibitor and 0.001-5.0% of a phenolic ester \*\*\*uv\*\*\* -stabilizer precursor. The precursor undergoes \*\*\*Fries\*\*\* rearrangement to hydroxybenzophenones after polymerization and on exposure to sunlight. These compounds in part yield \*\*\*uv\*\*\* stability to the polymers. The compounds are esp. useful in continuous production of acrylic sheet where they are heated and extruded through a sheeting die. After the sheet leaves the die, it travels vertically between fluorescent black-light lamps which produce the \*\*\*uv\*\*\* light necessary for polymerization and between heaters. The hardened polymer sheet is then removed from the polymerization tower by pinch rolls. Thus, Me methacrylate 56.7, poly(Me methacrylate) [9011-14-7] 43.3, benzoin 0.01, 2,4-dimethyl-6-tert-butylphenol 0.003, and \*\*\*resorcinol\*\*\* monobenzoate [136-36-7] 0.03%

were mixed and agitated to remove dissolved gases until the viscosity neared the point at which it would not flow. Then it was poured into a cell formed by 2 glass plates sepd. by a poly(vinyl chloride) gasket and stored in darkness for 1 day to allow the compn. to gel. The cell was suspended in an air circulating oven and irradiated by black-light fluorescent bulbs. The temp. increased from 60 to 78.deg. in 24 min. The polymn. rate is proportional to the temp. rise divided by the time necessary for that rise. For the compn. described this ratio was 0.75.deg./min. After the temp. within the compn. had reached its max. value due to exothermic polymn., the oven temp. was increased to 118.deg. and maintained at this level for 69 min. to facilitate the complete polymn. After cooling, the sheet was sepd. from the glass plates and exposed to \*\*\*uv\*\*\* irradsn. in an accelerated weathering test for 2 weeks. Visible-light transmission through the sheet was measured before and after exposure. A yellowness index was calcd. for the fresh and exposed sheets. The yellowness was 0.1 initially and 1.6 after 2 weeks' exposure, compared with 0.2 and 4.6, resp., for control samples.

ST photopolymerizable acrylic compn; \*\*\*UV\*\*\* stabilizers acrylic compns; hydroxybenzophenones \*\*\*UV\*\*\* stabilizers; polymethacrylate sheets prepn; \*\*\*resorcinol\*\*\* monobenzoate \*\*\*UV\*\*\* stabilizer

IT Polymerization catalysts  
(azobisisobutyronitrile and benzoin, for methyl methacrylate)

IT Polymerization  
(by light, of methyl methacrylate temp. in relation to)

IT Polymerization inhibitors  
(dimethylbutylphenol, for methyl methacrylate)

IT Light stabilizers  
( \*\*\*resorcinol\*\*\* monobenzoate, for methyl methacrylate)

IT 78-67-1 119-53-9  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for polymn. of methyl methacrylate)

IT 1879-09-0  
RL: USES (Uses)  
(polymn. inhibitors, for methyl methacrylate)

IT 9011-14-7P  
RL: PREP (Preparation)  
(prepn. of, catalysts and inhibitors for)

IT 136-36-7  
RL: USES (Uses)  
( \*\*\*uv\*\*\* light stabilizers, for methyl methacrylate polymers)

L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:65993 CAPLUS

DN 66:65993

ED Entered STN: 12 May 1984

TI \*\*\*Fries\*\*\* rearrangement of polyphenyl esters to polyhydroxy phenones

AU Bellus, Daniel; Manasek, Zdenek; Hrdlovic, Pavol; Slama, Peter

CS Slovak Acad. Sci., Bratislava, Czech.

SO Journal of Polymer Science, Polymer Symposia (1966), No. 16, 267-77

CODEN: JPYCAQ; ISSN: 0360-8905

DT Journal

LA English

CC 35 (Synthetic High Polymers)

AB Poly(m-phenylene adipate), poly(isopropylidenedi-p-phenylene adipate), poly(isopropylidenedi-p-phenylene thiapimelate), poly[m-phenylene/isopropylidene-p-phenylene (70:30) isophthalate], poly(mphenylene isophthalate), and poly(isopropylidenedi-p-phenylene isophthalate) (I) were rearranged to polyhydroxy phenones in PhNO2 soln. or a melt, using AlCl3, TiCl4, and SnCl4 as catalysts, or in CHCl3 using \*\*\*uv\*\*\* light as a catalyst. In the rearrangement of I in PhNO2 with AlCl3 catalysis, the mol. wt. decreased sharply after a short time, and cross-linking occurred when the ester group content reached 55-65 mol. %. A characteristic ir absorption band appeared at 1638 cm.-1 and increased in intensity with reaction time. The ester group content decrease was 1st order only during the initial stages, unlike the \*\*\*Fries\*\*\* rearrangement. The color of the product went from light yellow through brown, and finally turned black in most cases. The ir absorption in the other polymers varied from 1636 to 1656 cm.-1 \*\*\*Uv\*\*\* -catalyzed rearrangement of low-mol.-wt. model compds. (p-cresyl benzoate and \*\*\*resorcinol\*\*\* monobenzoate) gave quantum yields of 0.55 and 0.36 mole-einstein-1, resp., for 254 m.mu. radiation. A mechanism for the rearrangement is postulated.

```

ST   ***RESORCINOL***      ***POLYESTERS*** ; ***POLYESTERS*** AROM
    ***FRIES*** REARRANGEMENT; REARRANGEMENT ***POLYESTERS*** AROM;
    ***FRIES*** REARRANGEMENT ***POLYESTERS*** ; POLYHYDROXYPHENONES;
POLYPHENYL ESTERS REARRANGEMENT; BISPHENOL ***POLYESTERS***
IT   ***Polyesters*** , reactions
    RL: RCT (Reactant); RACT (Reactant or reagent)
        ( ***Fries*** rearrangement of, mechanism of)
IT   ***Fries*** rearrangement
        (of ***polyesters*** , mechanism of)
IT   Benzenethiol, 4,4'-isopropylidenedi-, ***polyester*** with pimelic
        acid
    RL: RCT (Reactant); RACT (Reactant or reagent)
        ( ***Fries*** rearrangement of)
IT   25189-11-1 25212-77-5 26618-61-1 26637-46-7 29255-72-9
    31325-48-1 31325-49-2 31325-50-5 32200-90-1 32200-91-2
    32200-92-3
    RL: RCT (Reactant); RACT (Reactant or reagent)
        ( ***Fries*** rearrangement of)

```

=> s sllx

0 SLLX

L14 0 SLLX

=> d hsi

L14 HAS NO ANSWERS

L14 0 SEA FILE=CAPLUS ABB=ON PLU=ON SLLX

=> d his

(FILE 'HOME' ENTERED AT 11:23:01 ON 30 JAN 2006)

FILE 'CAPLUS' ENTERED AT 11:23:08 ON 30 JAN 2006

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L1 28980 S RESORCINOL
L2 1449 S L1 AND (UV OR ULTRAVIOLET)
L3 200 S L1 AND (MASK? OR PHOTOMASK?)
L4 5 S L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O
L5 136 S L2 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O
L6 136 S L5 NOT L4
L7 5 S L6 AND (REFRACTIVE OR REFRACTION OR FRIES)
L8 117 S L2 AND POLYESTER
L9 0 S L8 AND (MASK? OR PHOTOMASK?)
L10 2215 S L1 AND POLYESTER
L11 1 S L10 AND (MASK? OR PHOTOMASK?)
L12 117 S L10 AND (UV OR ULTRAVIOLET)
L13 5 S L12 AND (PATTERN? OR REFRACTIVE OR REFRACTION OR FRIES)
L14 0 S SLLX

```

=> s l1 and (grating or hologra?)

31994 GRATING

18847 GRATINGS

37577 GRATING

(GRATING OR GRATINGS)

18143 HOLOGRA?

16360 HOLOG

14 HOLOGS

16362 HOLOG

(HOLOG OR HOLOGS)

21207 HOLOGRA?

(HOLOGRA? OR HOLOG)

L15 15 L1 AND (GRATING OR HOLOGRA?)

=> d all 1-15

L15 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:182219 CAPLUS

DN 142:287868

ED Entered STN: 04 Mar 2005

TI Methods of photoaddressing a polymer composition and the articles derived therefrom

IN Chisholm, Bret Ja; McLaughlin, Michael Jeffrey

PA USA  
SO U.S. Pat. Appl. Publ., 9 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM G11B007-24  
INCL 430270140; 430945000; 219121650  
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005048401	A1	20050303	US 2003-652016	20030829
	WO 2005022525	A1	20050310	WO 2004-US28084	20040827
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-652016 A 20030829

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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US 2005048401	ICM	G11B007-24
	INCL	430270140; 430945000; 219121650
	IPCI	G11B0007-24 [ICM,7]
	NCL	430/270.140
WO 2005022525	IPCI	G11B0007-24 [ICM,7]

AB A method for manufg. data storage media comprising irradiating at least a portion of an org. polymer comprising a \*\*\*resorcinol\*\*\* arylate polyester with a UV beam having a wavelength of about 290 to about 700 nm so as to impart an energy of about 1 to about 20 mW/square centimeter to the irradiated portion of the org. polymer.

ST photoaddressing polymer compn \*\*\*holog\*\*\* recording

IT Polycarbonates, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(methods of photoaddressing a polymer compn. and the articles derived therefrom)

IT \*\*\*Holographic\*\*\* recording materials  
(polymeric; methods of photoaddressing a polymer compn. and the articles derived therefrom)

IT 100-21-0D, Terephthalic acid, ester, polymer with isophthalate, \*\*\*resorcinol\*\*\*, carbonate 108-46-3D, \*\*\*Resorcinol\*\*\*, polymer with isophthalate, terephthalate, carbonate 121-91-5D, Isophthalic acid, ester, polymer with terephthalate, \*\*\*resorcinol\*\*\*, carbonate 3812-32-6D, Carbonate, polymer with isophthalate, terephthalate, \*\*\*resorcinol\*\*\*

RL: TEM (Technical or engineered material use); USES (Uses)  
(methods of photoaddressing a polymer compn. and the articles derived therefrom)

L15 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:633307 CAPLUS

DN 141:166768

ED Entered STN: 06 Aug 2004

TI Synthesis, spectroscopy, and photophysics of multi-chromophoric Zn(II) Group 8 metal complexes

IN Therien, Michael J.; Uyeda, Harry Tetsuo

PA The Trustees of the University of Pennsylvania, USA

SO U.S. Pat. Appl. Publ., 40 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM C08L001-00

INCL 524543000; 524556000; 546002000; 548402000

CC 78-7 (Inorganic Chemicals and Reactions)  
Section cross-reference(s): 26, 72, 73, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004152826	A1	20040805	US 2003-403387	20030328
PRAI	US 2002-368493P	P	20020328		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004152826	ICM	C08L001-00
	INCL	524543000; 524556000; 546002000; 548402000
	IPCI	C08L0001-00 [ICM,7]
	NCL	524/543.000
	ECLA	C07D487/22+257E+209C+209C+209C+209C

OS MARPAT 141:166768

GI

/ Structure 1 in file .gra /

AB Novel multichromophoric complexes comprising R1-RA-[MC]-([RM]z-[MC])m-RA-R2 [MC = conjugated macrocycle; RA = covalent bond, C2-C20 alkenyl or alkynyl, C4-C14 cumulenyl; RM = C1-C20 alkyl, C2-C20 alkenyl or alkynyl, C4-C14 cumulenyl, C3-C50 aryl, and various arylalkynyl, heterocycloalkyl, heteroaryl, etc.; R1 = H, halo, protecting group, etc.; m = 0-50, z = 0 or 1] and their metal complexes, are provided. Polymeric compns. and devices comprising the same are also discussed. The complexes are characterized by a central bridging moiety comprising one or a plurality of linked conjugated macrocyclic mols. [MC] coupled to at least one inorg. moiety (R1 and/or R2 ) through org. linker RA. Prepn. methods include metal-mediated cross-coupling techniques. The complexes can be useful in nonlinear optical devices and other optoelectronic applications. The UV-visible spectra, cyclic voltammetry, and mol. first order hyperpolarizability of some prepd. example compds. of the invention, e.g., ethynyl-bridged ruthenium(II)/osmium(II) terpyridine zinc porphyrinato complexes I(PF6)2 (M = Ru, Os), are measured.

ST zinc porphyrin Group 8 metal terpyridine ethynyl linked prepn; NLO zinc porphyrin Group 8 metal terpyridine multichromophoric; optoelectronic zinc porphyrin Group 8 metal terpyridine multichromophoric; electrochem redox zinc porphyrin Group 8 metal terpyridine multichromophoric; polymer zinc Group 8 metal multichromophoric complex optoelectronic application

IT Group VIII element complexes

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(Group 8; prepn., UV-visible spectra, and mol. first-order hyperpolarizability of multichromophoric zinc(II) Group 8 metal complexes for nonlinear optical devices and optoelectronic applications)

IT Redox reaction

(electrochem.; of multichromophoric ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes)

IT Nonlinear optical materials

(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices)

IT \*\*\*Holographic\*\*\* recording materials

Optical detectors

Optical limiting

Optical waveguides

Photorefractive materials

(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Photoelectric devices

(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for optoelectronic applications)

IT Optical hyperpolarizability

(mol. first-order hyperpolarizability of ethynyl-bridged ruthenium(II)/osmium(II) terpyridine zinc porphyrinato complexes and related multichromophoric zinc(II) Group 8 metal complexes)

IT UV and visible spectra  
(of multichromophoric ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes)

IT Optical instruments  
(phase shifters; ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Fluoropolymers, uses  
Polyamic acids  
Polycarbonates, uses  
Polyesters, uses  
Polyimides, uses  
Polyolefins  
Polyurethanes, uses  
RL: DEV (Device component use); USES (Uses)  
(polymer compns. contg. ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Porphyrins  
RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. of ethynyl-linked porphyrins and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Metalloporphyrins  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(zinc; prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 171204-91-4 478183-91-4 478183-93-6  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(mol. first-order hyperpolarizability as multichromophoric complex for NLO devices and other optoelectronic applications)

IT 9003-53-6  
RL: DEV (Device component use); USES (Uses)  
(polymer compns. contg. ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 478183-87-8P 478183-89-0P 478183-95-8P  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 478184-19-9P 478184-20-2P 478184-33-7P 731794-51-7P 731794-55-1P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 108-46-3, \*\*\*Resorcinol\*\*\*, reactions 624-95-3, 3,3-Dimethyl-1-butanol 1066-54-2, Trimethylsilylacetylene 21211-65-4, Dipyrromethane 72905-30-7 78389-87-4 97393-18-5 478184-36-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 149817-62-9P 183803-99-8P 211450-16-7P 478184-21-3P 478184-24-6P  
478184-27-9P 478184-29-1P 478184-31-5P 478184-34-8P 478184-35-9P  
478184-37-1P 478184-38-2P 478184-39-3P 478184-40-6P 478184-41-7P  
478184-42-8P 478184-44-0P 731794-60-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

L15 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:944770 CAPLUS

DN 140:147679

ED Entered STN: 04 Dec 2003

TI New azobenzene chromophores as monomers for synthesis of polyesters

AU Schab-balcerzak, Ewa; Grabiec, Eugenia; Sek, Danuta; Miniewicz, Andrzej  
 CS Centre of Polymer Chemistry, Polish Academy of Sciences, Zabrze, 41-819,  
 Pol.  
 SO Polymer Journal (Tokyo, Japan) (2003), 35(11), 851-858  
 CODEN: POLJB8; ISSN: 0032-3896  
 PB Society of Polymer Science, Japan  
 DT Journal  
 LA English  
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)  
 Section 'cross-reference(s): 25, 35, 73  
 OS CASREACT 140:147679  
 AB Two new azo chromophores: 2,4-dihydroxy-4'-nitroazobenzene and  
 2,4-dihydroxy-4-azo-(4'-nitroazobenzene)benzene have been prepd. These  
 diols have been applied as monomers for polyesters synthesized in  
 condensation with isophthaloyl chloride and/or sebacoyl chloride. The  
 polymers were identified by IR spectra and elemental anal. The character  
 of the polymers was detd. using X-ray spectroscopy. Thermal properties  
 such as glass transition temp. and thermal stability were investigated  
 using differential scanning calorimetry and thermogravimetric anal. These  
 polymers with azobenzene groups could find potential applications as  
 \*\*\*hologram\*\*\* recording materials. Preliminary investigations of optical  
 \*\*\*grating\*\*\* recording were carried out.  
 ST \*\*\*resorcinol\*\*\* azo dye deriv polyester prepn  
 IT Polyesters, preparation  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (azobenzene chromophores as monomers for synthesis of polyesters)  
 IT Diffraction \*\*\*gratings\*\*\*  
 \*\*\*Holographic\*\*\* diffraction \*\*\*gratings\*\*\*  
 (from polyesters based on azobenzene chromophore monomers)  
 IT Glass transition temperature  
 Thermal stability  
 UV and visible spectra  
 (of polyesters based on azobenzene chromophore monomers)  
 IT Azo dyes  
 (polymerizable; azobenzene chromophores as monomers for synthesis of  
 polyesters)  
 IT 649729-60-2P, 4-(4-Nitrophenylazo) \*\*\*resorcinol\*\*\* -sebacoyl chloride  
 copolymer 649729-61-3P, Isophthaloyl chloride-4-(4-nitrophenylazo)  
 \*\*\*resorcinol\*\*\* copolymer 649729-62-4P 649729-63-5P 649729-64-6P  
 649729-65-7P 651329-00-9P 651329-05-4P 651329-13-4P 651329-14-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (azobenzene chromophores as monomers for synthesis of polyesters)  
 IT 108-46-3, \*\*\*Resorcinol\*\*\*, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (coupling component; azobenzene chromophores as monomers for synthesis  
 of polyesters)  
 IT 100-01-6, p-Nitroaniline, reactions 730-40-5, 4-Amino-4'-nitroazobenzene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (diazo component; azobenzene chromophores as monomers for synthesis of  
 polyesters)  
 IT 649729-58-8P 649729-59-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (model compd.; azobenzene chromophores as monomers for synthesis of  
 polyesters)  
 IT 74-39-5P 649729-57-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (monomer; azobenzene chromophores as monomers for synthesis of  
 polyesters)  
 IT 98-88-4, Benzoyl chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material for model compd.; azobenzene chromophores as  
 monomers for synthesis of polyesters)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L15 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:855018 CAPLUS  
DN 140:67554  
ED Entered STN: 31 Oct 2003  
TI Investigations of polymers with chromophore units I. Synthesis and  
properties of new poly(ester-imide)s from 2,4-dihydroxy-4'-nitroazobenzene  
AU Sek, Danuta; Grabiec, Eugenia; Miniewicz, Andrzej  
CS Centre of Polymer Chemistry, Polish Academy of Sciences, Zabrze, 41-800,  
Pol.  
SO Polymer Journal (Tokyo, Japan) (2003), 35(10), 749-756  
CODEN: POLJBB; ISSN: 0032-3896  
PB Society of Polymer Science, Japan  
DT Journal  
LA English  
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 38  
AB A series of poly(ester-imide)s based on new azobenzene deriv.  
2,4-dihydroxy-4'-nitroazobenzene has been synthesized and characterized.  
An influence of macromols. structures on the phys. and chem. properties  
was investigated. The preliminary results of \*\*\*holog\*\*\* . recording  
in poly(ester-imide) foils are presented.  
ST \*\*\*holog\*\*\* diffraction \*\*\*grating\*\*\* recording polyester  
polyimide synthesis property  
IT Polyimides, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyester-; synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene)  
IT Polyimides, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyester-polyether-; synthesis and properties of new  
poly(ester-imide)s from 2,4-dihydroxy-4'-nitroazobenzene)  
IT Polyethers, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyester-polyimide-; synthesis and properties of new  
poly(ester-imide)s from 2,4-dihydroxy-4'-nitroazobenzene)  
IT Polyesters, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyether-polyimide-; synthesis and properties of new  
poly(ester-imide)s from 2,4-dihydroxy-4'-nitroazobenzene)  
IT Polyesters, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyimide-; synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene)  
IT \*\*\*Holographic\*\*\* diffraction \*\*\*gratings\*\*\*  
\*\*\*Holographic\*\*\* recording materials  
(synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene for \*\*\*holog\*\*\* . recording)  
IT 74-39-5P, 2,4-Dihydroxy-4'-nitroazobenzene 186248-20-4P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene)  
IT 187327-19-1P 639065-30-8P 639065-31-9P 639065-36-4P 639065-37-5P  
639065-43-3P 639065-60-4P 639065-61-5P 639065-87-5P 639065-92-2P  
639065-97-7P 639065-99-9P 639066-03-8P 639066-07-2P 639066-32-3P  
639066-45-8P 639066-65-2P 639066-67-4P 639066-69-6P 639066-71-0P  
639066-72-1P 639066-73-2P 639066-74-3P 639066-75-4P 639066-77-6P  
639066-79-8P 639066-81-2P 639066-82-3P 639066-83-4P 639066-84-5P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene)  
IT 92-87-5, 4,4'-Diaminobiphenyl 95-54-5, 1,2-Phenylenediamine, reactions  
101-77-9, 4,4'-Methylenedianiline 101-80-4, 4,4'-Diaminodiphenylether  
106-50-3, 1,4-Phenylenediamine, reactions 108-45-2, 1,3-  
Phenylenediamine, reactions 108-46-3, \*\*\*Resorcinol\*\*\* , reactions  
119-90-4, [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy 119-93-7,  
o-Tolidine 838-88-0, 4,4'-Methylenedi-o-toluidine 1204-28-0,



Trimellitic anhydride acid chloride 2479-46-1 3102-87-2,  
2,3,5,6-Tetramethyl-1,4-phenylenediamine 4073-98-7, 4,4'-Methylene  
bis(2,6-dimethylaniline) 13680-35-8, 4,4'-Methylene bis(2,6-  
diethylaniline) 54827-17-7, 3,3',5,5'-Tetramethylbenzidine  
RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis and properties of new poly(ester-imide)s from  
2,4-dihydroxy-4'-nitroazobenzene)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L15 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:527010 CAPLUS

DN 139:264932

ED Entered STN: 10 Jul 2003

TI A novel quantitative structure-biodegradability relationship (QSBR) of  
substituted benzenes based on MHDV descriptor

AU Liu, Yan; Liu, Shu-Shen; Cui, Shi-Hai; Cai, Shao-Xi

CS School of Life Science, Southwest China Normal University, Chungking,  
400715, Peop. Rep. China

SO Journal of the Chinese Chemical Society (Taipei, Taiwan) (2003), 50(2),  
319-324

CODEN: JCCTAC; ISSN: 0009-4536

PB Chinese Chemical Society

DT Journal

LA English

CC 60-1 (Waste Treatment and Disposal)

AB The mol. \*\*\*holog\*\*\* . distance vector (MHDV) is used to characterize  
the structures of 51 substituted benzenes. Descriptors (29) from 91 MHDV  
ones have nonzero values where 3 descriptors have only 1 nonzero sample  
and 1 descriptor only 2 nonzero samples. A genetic algorithm is used to  
select an optimal combination of the variables from the remaining 25  
nonzero descriptors. Then the optimal descriptors are used to relate to  
the relative biodegradability using multiple linear regression method.  
The 6-variable linear model developed has high quality where the  
correlation coeff. of estns. and the root mean square error of estns. are  
0.9604 and 0.280, resp., and the correlation coeff. of predictions and the  
root mean square error of predictions for leave-one-out procedure are  
0.9471 and 0.324, resp.

ST quant structure biodegradability relationship substituted benzene;  
substituted benzene mol \*\*\*holog\*\*\* distance vector descriptor

IT Wastewater treatment

(biol.; novel quant. structure-biodegradability relationship of  
substituted benzenes based on mol. \*\*\*holog\*\*\* . distance vector  
descriptor)

IT Algorithm

Simulation and Modeling

(novel quant. structure-biodegradability relationship of substituted benzenes based on mol. \*\*\*holog\*\*\* . distance vector descriptor)

IT 62-23-7, 4-Nitrobenzoic acid 62-53-3, Aniline, occurrence 65-85-0, Benzoic acid, occurrence 69-72-7, Salicylic acid, occurrence 88-72-2, 2-Nitrotoluene 88-74-4, 2-Nitroaniline 88-75-5, 2-Nitrophenol 88-99-3, Phthalic acid, occurrence 95-48-7, 2-Hydroxytoluene, occurrence 95-51-2, 2-Chloroaniline 95-53-4, 2-Aminotoluene, occurrence 95-55-6, 2-Aminophenol 95-57-8, 2-Chlorophenol 98-11-3, Benzenesulfonic acid, occurrence 98-48-6, 1,3-Benzene disulfonic acid 98-95-3, Nitrobenzene, occurrence 99-05-8, 3-Aminobenzoic acid 99-08-1, 3-Nitrotoluene 99-09-2, 3-Nitroaniline 99-61-6, 3-Nitrobenzaldehyde 99-65-0, 1,3-Dinitrobenzene 99-96-7, 4-Hydroxybenzoic acid, occurrence 99-99-0, 4-Nitrotoluene 100-01-6, 4-Nitroaniline, occurrence 100-02-7, 4-Nitrophenol, occurrence 100-52-7, Benzaldehyde, occurrence 104-15-4, 4-Toluenesulfonic acid, occurrence 106-44-5, 4-Hydroxytoluene, occurrence 106-47-8, 4-Chloroaniline, occurrence 106-48-9, 4-Chlorophenol 106-49-0, 4-Aminotoluene, occurrence 108-39-4, 3-Hydroxytoluene, occurrence 108-42-9, 3-Chloroaniline 108-43-0, 3-Chlorophenol 108-44-1, 3-Aminotoluene, occurrence 108-46-3, \*\*\*Resorcinol\*\*\*, occurrence 108-95-2, Phenol, occurrence 118-92-3, 2-Aminobenzoic acid 120-80-9, Pyrocatechol, occurrence 121-57-3, Sulfanilic acid 121-91-5, Isophthalic acid, occurrence 121-92-6, 3-Nitrobenzoic acid 123-30-8, 4-Aminophenol 123-31-9, Hydroquinone, occurrence 150-13-0, 4-Aminobenzoic acid 552-16-9, 2-Nitrobenzoic acid 552-89-6, 2-Nitrobenzaldehyde 554-84-7, 3-Nitrophenol 555-16-8, 4-Nitrobenzaldehyde, occurrence 591-27-5, 3-Aminophenol

RL: POL (Pollutant); OCCU (Occurrence)

(novel quant. structure-biodegradability relationship of substituted benzenes based on mol. \*\*\*holog\*\*\* . distance vector descriptor)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L15 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:409513 CAPLUS

DN 139:134467

ED Entered STN: 29 May 2003

TI Structural design of nonlinear optical chromophores for high-performance photorefractive polymers

AU Jung, Gyeong Bok; Honda, Kayoko; Mutai, Toshiki; Matoba, Osamu; Ashihara, Satoshi; Shimura, Tsutomu; Araki, Koji; Kuroda, Kazuo

CS Institute of Industrial Science, University of Tokyo, Tokyo, 153-8505, Japan

SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2003), 42(5A), 2699-2704

CODEN: JAPNDE

PB Japan Society of Applied Physics

DT Journal

LA English

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 73

AB Photorefractive response rate in a polymer composite of poly(N-vinylcarbazole)/2,4,7-trinitro-9-fluorenone, doped with 2,5-dimethyl-4-(4'-nitrophenylazo)anisole (DMNPAA) is improved by modifying the structure of DMNPAA. We found that four kinds of modified DMNPAA with alkyl substituents have fast orientational response to an external elec. field and keep large anisotropy in polarizability. Among them, 4-butoxy-3-propyl-1-(4'-nitrophenylazo)benzene has the shortest reorientation time const. of 19 ms ( $E = 54 \text{ V}/\mu\text{m}$ ) and photorefractive time const. of 80 ms ( $I = 2 \text{ W}/\text{cm}^2$ ,  $E = 54 \text{ V}/\mu\text{m}$ ) that are 2,300 times and 63 times faster than those of the DMNPAA composite. The mechanism of the fast reorientation in new polymer composites is investigated. The fast reorientational response is achieved by the improvement of the dispersivity in the polymer composites and the decrease of the glass transition temp.

ST photorefractivity \*\*\*grating\*\*\* optical gain nitroazobenzene deriv  
 chromophore synthesis

IT Refractive index  
 (nonlinear; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT Polarizability  
 (of NLO chromophores; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT Four wave mixing  
 Optical gain  
 Photorefractive effect  
 Photorefractive \*\*\*gratings\*\*\*  
 (structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 75-26-3, 2-Bromopropane 100-01-6, 4-Nitroaniline, reactions 109-65-9, 1-Bromobutane 110-46-3, Isoamyl nitrite 1809-10-5, 3-Bromopentane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (dopant synthesis; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 74-39-5P, 4-(4'-Nitrophenylazo) \*\*\*resorcinol\*\*\* 1435-64-9P, 2,5-Dimethyl-4-(4'-nitrophenylazo)-phenol 2780-21-4P, 4-(4'-Nitrophenylazo)-2-propylphenol  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (dopant synthesis; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 153800-56-7, 2,5-Dimethyl-4-(4'-nitrophenylazo)anisole  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (dopant; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 568565-39-9P, 2,5-Dimethyl-1-(4'-nitrophenylazo)-4-isopropoxybenzene 568565-40-2P, 2,5-Dimethyl-1-(4'-nitrophenylazo)-4-isopentoxybenzene 568565-41-3P, 2,4-Dibutoxy-1-(4'-nitrophenylazo)benzene 568565-42-4P, 4-Butoxy-3-propyl-1-(4'-nitrophenylazo)benzene  
 RL: MOA (Modifier or additive use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (dopant; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 25067-59-8, Poly(N-vinylcarbazole)  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (polymer matrix; structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

IT 129-79-3, 2,4,7-Trinitrofluorenone  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (structural design of nonlinear optical chromophores for high-performance photorefractive polymers)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L15 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:76955 CAPLUS

DN 110:76955

ED Entered STN: 04 Mar 1989

TI Combined use of \*\*\*holographic\*\*\* interferometry and acoustic emission to study the fracture mechanism of adhesive joints

AU Koval'chuk, S. L.; Shtan'ko, A. E.

CS Mosk. Lesotekh. Inst., Moscow, USSR

SO Defektoskopiya (1988), (11), 90-3

CODEN: DEFKAG; ISSN: 0130-3082

DT Journal

LA Russian

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 43

AB \*\*\*Holog\*\*\* . interferometry and acoustic emission (AE) were used to study the adhesive strength of pinewood toothed joints with FRF-50 (\*\*\*resorcinol\*\*\* -PhOH-HCHO copolymer) under tensile loading. The initial AE signals during joint deformation were registered at .apprx.0.1 of the fracture load (Pp), and their rate increased at .apprx.0.3 Pp due to the formation of microcracks at sites with increased initial stress concn. were obsd. at 0.6 Pp in form of concentric interference bands. Thus, the stress concentrator zones in the tooth apex are the main causes for fracture and the sources of AE signals.

ST fracture mechanism adhesive joint wood; \*\*\*holog\*\*\* interferometry fracture adhesive joint; acoustic emission fracture adhesive joint

IT Adhesives

(joints, of toothed wood parts with phenolic adhesive, fracture mechanism of, \*\*\*holog\*\*\* . interferometry and acoustic emission in study of)

IT Wood

(pine, adhesive joints of toothed parts of, with phenolic adhesive, fracture mechanism of, \*\*\*holog\*\*\* . interferometry and acoustic emission in study of)

IT 25986-71-4, FRF 50

RL: USES (Uses)

(adhesive, toothed wood parts bonded with, fracture mechanism of, \*\*\*holog\*\*\* . interferometry and acoustic emission in study of)

L15 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1981:4309 CAPLUS

DN 94:4309

ED Entered STN: 12 May 1984

TI A \*\*\*holographic\*\*\* correlometer with phase modulation for the study of viscous and superviscous light-scattering media

AU Gurari, M. L.; Magomedov, A. A.; Sakharov, V. K.; Davydova, A. B.;

Bel'govskii, I. M.; Enikolopyan, N. S.

CS Inst. Khim. Fiz., Moscow, USSR

SO Vysokomolekulyarnye Soedineniya, Seriya A (1980), 22(8), 1900-4

CODEN: VYSAAF; ISSN: 0507-5475

DT Journal

LA Russian

CC 35-5 (Synthetic High Polymers)

Section cross-reference(s): 73

AB A \*\*\*holog\*\*\* . correlometric method is described for studying the scattering of light by the extremely slow motion of individual scattering centers or by the collective motion in a viscous scattering medium. The parameter measured is the autocorrelation function of a scattered field. The method was used for measuring the correlation times of relaxation in crosslinked \*\*\*resorcinol\*\*\* diglycidyl ether-m-phenylenediamine copolymer [66485-73-2] in a glassy state.

ST \*\*\*holog\*\*\* correlometry light scattering; epoxy resin light scattering; relaxation polymer light scattering

IT \*\*\*Holography\*\*\*

(correlometric, light scattering by viscous media in relation to)

IT Relaxation

(in viscous polymers, light scattering with \*\*\*holog\*\*\* .  
 correlometry in detn. of)

IT Polymers, properties  
 RL: PRP (Properties)  
 (light scattering by viscous, \*\*\*holog\*\*\* . correlometric  
 measurement of)

IT Epoxy resins, properties  
 RL: USES (Uses)  
 (relaxation in, light scattering with \*\*\*holog\*\*\* . correlometry in  
 detn. of)

IT Light  
 (scattering of, by viscous media, \*\*\*holog\*\*\* . correlometry in)

IT 66485-73-2  
 RL: USES (Uses)  
 (relaxation in, light scattering with \*\*\*holog\*\*\* . correlometry in  
 detn. of)

L15 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1965:406694 CAPLUS  
 DN 63:6694  
 OREF 63:1209h,1210a-d  
 ED Entered STN: 22 Apr 2001  
 TI Spectrographic determination of rare earth elements  
 AU Kul'skaya, O. A.  
 SO Tr. Inst. Geol. Nauk, Akad. Nauk Ukr. SSR, Ser. Petrogr., Mineralog. i  
 Geokhim. (1964), No. 21, 76-120  
 DT Journal  
 LA Russian  
 CC 2 (Analytical Chemistry)  
 AB Flame-photometric, spectrophotometric, x-ray spectrographic, fluorescent,  
 luminescent, neutron activation, mass spectroscopic, chromatographic,  
 polarographic, and emission spectrographic detns. of rare earth elements  
 are compared. The advantages of the emission spectrographic analysis are:  
 speed, high sensitivity, sufficient accuracy, and universality. The  
 extreme complexity of the rare earths spectra necessitates a spectrograph  
 of large dispersion such as KS-55, KSA-1 (at 2500-3500 A.), ISP-51 with  
 the glass optics (in the visible region), and \*\*\*grating\*\*\*  
 instruments DFS-3 and DFS-13. D.c., a.c., and high-frequency arc  
 excitation are employed. For the detn. of the rare earth elements, Ce,  
 La, Sm, Nd, Y, Yb, Ba, Fe, Mo, Sr, Mg, Sc, and Zr can be used as an  
 internal standard. In this paper Zr is proposed as an internal standard  
 in the uv region. The anal. line pairs are as follows: La 2610.34/Zr  
 2567.64, La 3245.12/Zr 3182.86, Y 3179.42/Zr 3182.858, Y 3200.27/Zr  
 3182.858, Nd 3328.27/Zr 3182.858, Nd 3328.27/background, Sm 3183.92/Zr  
 3182.858, Sm 3183.92/background, Pr 3172.27/Zr 3182.858, Lu 2615.42/Zr  
 2567.64, Tb 3324.40/Zr 3182.858, Ce 3063.01/Zr 3182.858, Ce  
 3063.01/background, Gd 3032.85/Zr 3182.858, Gd 2796.94/Zr 2722.61, Er  
 2910.36/Zr 2722.61, Eu 2727.78/Zr 2722.61, Yb 2891.38/Zr 2722.61, Yb  
 3289.37/Zr 3182.858, Dy 3319.89/Zr 3182.858, Tm 2869.22/Zr 2722.61, and Ho  
 3425.35/Zr 3182.858 A. Content of 1% and less of the base elements causes  
 no interferences, hence, the samples are dild. (1:10-1:20) with C powder.  
 The C powder is also added to decrease the effect of sample compn. and to  
 stabilize burning of the arc. The volatilization curves corresponding to  
 volatilization direct from minerals and to that from the total rare earth  
 oxides are given. For the detn. of the rare earth elements their oxides  
 were purified to remove Th (interference). Standards and samples were  
 mixed (1:10) with the C powder and the resulting mixt. was mixed (1:1)  
 with the internal standard prepd. from ZrO<sub>2</sub>; 3 series of standards were  
 used. A KSA-1 spectrograph was used at 2500-3500 A. under the following  
 conditions: crater, 2.5 mm. deep and 2.5 mm. in diam.; d.c. arc current 10  
 amp.; slit 0.008 mm.; arc gap 2 mm.; exposure time 3 min. Procedure  
 applies to the following concns.: La 0.1-3, Ce 0.3-3, Nd 0.3-3, Pr 0.3-1,  
 Sm 0.1-1, Gd 0.03-1, Y 0.03-3, Er 0.01-0.5, Yb 0.01-0.5, Eu 0.01-0.5, Dy  
 0.03-1, Tb 0.03-1, Tm 0.03-1, Ho 0.03-1, and Lu 0.01-1%. The relative  
 error in the detns. averages .+- .12 for Ce and Nd and .+- .5% for the other  
 rare earth elements. 100 references.

IT Rare earth metals  
 (analysis, detn., spectrographic)

IT 7440-00-8, Neodymium  
 (analysis, 4-(2-pyridylazo) \*\*\*resorcinol\*\*\* in, spectrographic)

IT 7429-91-6, Dysprosium 7439-91-0, Lanthanum 7439-94-3, Lutetium  
 7440-10-0, Praseodymium 7440-19-9, Samarium 7440-27-9, Terbium

7440-30-4, Thulium 7440-45-1, Cerium 7440-52-0, Erbium 7440-53-1,  
Europium 7440-54-2, Gadolinium 7440-60-0, Holmium 7440-64-4,  
Ytterbium 7440-65-5, Yttrium  
(analysis, detn., spectrographic)

L15 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1964:35783 CAPLUS

DN 60:35783

OREF 60:6344e-f

ED Entered STN: 22 Apr 2001

TI A narrow \*\*\*grating\*\*\* spectrophotometer for far-infrared (40-150.mu.)

AU Lorenzelli, Vincenzo; Randi, Giuseppe; Gesmundo, Francesco

CS C.N.R., Genoa

SO Annali di Chimica (Rome, Italy) (1963), 53(3), 213-23

CODEN: ANCRAI; ISSN: 0003-4592

DT Journal

LA Italian

CC 10 (Spectra and Some Other Optical Properties)

AB A spectrophotometer is described for use in the far-infrared region. Interference from atm. H2O vapor is eliminated through the use of a dry box. Absorption spectra of some solid and liquid org. compds., (PhOH, \*\*\*resorcinol\*\*\*, urea, glycine, HCO2Me, AcOMe, etc.) are presented and discussed.

IT Spectrophotometers  
(infrared)

IT Spectra, infrared  
(of org. compds.)

IT 56-40-6, Glycine 57-13-6, Urea 62-56-6, Urea, thio- 64-18-6, Formic acid 79-20-9, Acetic acid, methyl ester 108-46-3, \*\*\*Resorcinol\*\*\* 108-95-2, Phenol 120-80-9, Pyrocatechol 149-32-6, Erythritol 471-46-5, Oxamide 3225-29-4, Hydroquinone, semiquinone  
(spectrum of)

L15 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1962:433024 CAPLUS

DN 57:33024

OREF 57:6595f-i

ED Entered STN: 22 Apr 2001

TI Evaluation of flame photometry for the determination of elements of the rare earth group

AU Meni, Oscars

CS Oak Ridge Natl. Lab., Oak Ridge, TN

SO U.S. At. Energy Comm. (1959), Volume CF-59-8-141, 20 pp.

From: Nucl. Sci. Abstr. 14, Abstr. No. 16610(1960).

DT Report

LA Unavailable

CC 2 (Analytical Chemistry)

AB Flame spectra are presented of all rare earth elements, except Ce and Pm, and of the closely related elements, Sc and Y. The precise wavelength and relative spectral intensity of each line and band, as well as the band width of all bands, are tabulated. In addn., the major bands and lines of each element are listed sep., together with the half-band width of all bands. Also included are the relative spectral interferences of other elements of the group studied, with the emissivity measurements of the bands and lines listed. The wavelengths of band crests and lines were fixed from spectral data recorded photographically with a prism spectrograph. The remaining data are based on the spectra of the several elements which were recorded with a high-sensitivity, \*\*\*grating\*\*\* flame spectrophotometer. Details of operating conditions are given. La, Yb, and Nd can be detd. without spectral interference by other elements of the group studied. For all other elements of the group, some spectral interference is encountered. Nevertheless, by judicious selection of wavelength, certain of the elements can be detd. flame photometrically in the presence of many others without serious interference.

IT Rare earth metals  
(analysis, detn., spectrophotometric)

IT 7440-00-8, Neodymium  
(analysis, 4-(2-pyridylazo) \*\*\*resorcinol\*\*\* in, spectrophotometric)

IT 7439-91-0, Lanthanum 7440-64-4, Ytterbium  
(analysis, detn., spectrophotometric)

IT 7429-91-6, Dysprosium 7439-91-0, Lanthanum 7439-94-3, Lutetium  
7440-00-8, Neodymium 7440-10-0, Praseodymium 7440-19-9, Samarium  
7440-20-2, Scandium 7440-27-9, Terbium 7440-30-4, Thulium 7440-52-0,  
Erbium 7440-53-1, Europium 7440-54-2, Gadolinium 7440-60-0, Holmium  
7440-64-4, Ytterbium  
(spectrum of)

L15 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1961:123431 CAPLUS

DN 55:123431

OREF 55:23170f-h

ED Entered STN: 22 Apr 2001

TI Spectrometric determination of carbon and phosphorus in steels and cast  
irons without special atmospheres

AU Giavino, A.

CS Optica S.p.A., Milan

SO Metallurgia Italiana (1961), 53, 229-32

CODEN: MITLAC; ISSN: 0026-0843

DT Journal

LA Unavailable

CC 7 (Analytical Chemistry)

AB Sufficient dispersion and resolution for C and P analysis in Fe alloys can  
be obtained with a plane \*\*\*grating\*\*\* of 1200 lines/mm. in stigmatic  
mounting on a 2-m. spectrometer without necessitating a special protective  
atm. The spectral range is located in conventional ultraviolet wave  
lengths, C 2296.89, Fe 2739.5, Mn 2705.7, Si 2516, P 2149.11, Cu 2218.1,  
Ni 2253.9, Cr 2677.1, Al 3082.1, and Sn 3262.3 A. Special attention is  
given to the optimum conditions of excitation and to the counterelectrode  
(Ag for C detn.). With good samples, up to 4.5% C in cast iron can be  
detd.

IT \*\*\*Resorcinol\*\*\*, 5-methyl-2(or 4)-(p-nitrophenylazo)-  
(in beryllium detn.)

IT 7439-89-6, Iron  
(alloys, analysis of, for C and P)

IT 7440-44-0, Carbon 7723-14-0, Phosphorus  
(analysis, detn. in Fe and steel)

IT 7440-41-7, Beryllium  
(analysis, detn. in air)

IT 7439-89-6, Iron  
(analysis, detn. of C and P in cast iron and steel)

L15 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1954:27774 CAPLUS

DN 48:27774

OREF 48:4977b-c

ED Entered STN: 22 Apr 2001

TI The OH-vibration frequencies of carboxylic acids and phenols

AU Goulden, J. D. S.

CS Boots Pure Drug Co., Nottingham, UK

SO Spectrochimica Acta (1954), 6, 129-33

CODEN: SPACA5; ISSN: 0038-6987

DT Journal

LA Unavailable

CC 3 (Electronic Phenomena and Spectra)

AB A \*\*\*grating\*\*\* spectrometer was used to measure the infrared OH  
frequencies of 49 carboxylic acids and 18 phenols, both in CCl4 solns.  
The frequencies range from 3504 to 3614 cm.-1 +- 1 cm.-1 All the values  
for phenols fell on a straight line, enabling approx. pKa, dissocn.  
consts. to be found from detns. of OH frequencies. The values for the  
carboxylic acids fell on 3 straight lines so that it is necessary to det.  
first the type of carboxylic acid, from infrared or other data, before  
approx. pKa values can be predicted from infrared measurements of OH  
frequencies.

IT Acids  
(hydroxyl group vibration frequencies in org.)

IT Phenols  
(hydroxyl-group vibration frequencies in)

IT Spectra  
(of hydroxyl group, in acids and phenols)

IT Hydroxyl group  
(vibrations of, in acids and phenols)

IT Propionic acid, (p-nitrophenyl)-

(spectrum of)  
IT 62-23-7, Benzoic acid, p-nitro- 74-11-3, Benzoic acid, p-chloro-  
99-06-9, Benzoic acid, m-hydroxy- 99-96-7, Benzoic acid, p-hydroxy-  
100-02-7, Phenol, p-nitro- 100-83-4, Benzaldehyde, m-hydroxy-  
106-48-9, Phenol, p-chloro- 108-43-0, Phenol, m-chloro- 121-92-6,  
Benzoic acid, m-nitro- 123-08-0, Benzaldehyde, p-hydroxy- 535-80-8,  
Benzoic acid, m-chloro- 554-84-7, Phenol, m-nitro- 940-31-8, Propionic  
acid, 2-phenoxy- 7170-38-9, Propionic acid, 3-phenoxy-  
(spectra of)

IT 64-19-7, Acetic acid 64-69-7, Acetic acid, iodo- 75-98-9, Pivalic acid  
76-03-9, Acetic acid, trichloro- 76-05-1, Acetic acid, trifluoro-  
79-08-3, Acetic acid, bromo- 79-11-8, Acetic acid, chloro- 79-43-6,  
Acetic acid, dichloro- 80-58-0, Butyric acid, 2-bromo- 80-59-1, Tiglic  
acid 86-55-5, 1-Naphthoic acid 89-83-8, Thymol 90-15-3, 1-Naphthol  
93-07-2, Veratric acid 93-09-4, 2-Naphthoic acid 95-65-8, 3,4-Xylenol  
95-87-4, 2,5-Xylenol 98-89-5, Cyclohexanecarboxylic acid 100-09-4,  
p-Anisic acid 103-82-2, Acetic acid, phenyl- 104-03-0, Acetic acid,  
(p-nitrophenyl)- 106-44-5, p-Cresol 108-46-3, \*\*\*Resorcinol\*\*\*  
108-95-2, Phenol 110-44-1, Sorbic acid 117-34-0, Acetic acid,  
diphenyl- 122-59-8, Acetic acid, phenoxy- 123-30-8, Phenol, p-amino-  
124-07-2, Octanoic acid 135-19-3, 2-Naphthol 150-13-0, Benzoic acid,  
p-amino- 150-76-5, Phenol, p-methoxy- 372-09-8, Acetic acid, cyano-  
492-38-6, Atropic acid 532-32-1, Benzoic acid, sodium salt 555-68-0,  
Cinnamic acid, m-nitro- 590-92-1, Propionic acid, 3-bromo- 590-93-2,  
Tetrolic acid 595-91-5, Acetic acid, triphenyl- 619-84-1, Benzoic  
acid, p-dimethylamino- 621-82-9, Cinnamic acid 625-45-6, Acetic acid,  
methoxy- 637-44-5, Propiolic acid, phenyl- 767-00-0, Benzonitrile,  
p-hydroxy- 830-09-1, Cinnamic acid, p-methoxy- 1552-94-9,  
2,4-Pentadienoic acid, 5-phenyl- 1689-82-3, Phenol, p-phenylazo-  
1727-53-3, Cinnamic acid, .alpha.-bromo- 1798-11-4, Acetic acid,  
(p-nitrophenoxy)- 3724-65-0, Crotonic acid 7400-08-0, Cinnamic acid,  
p-hydroxy- 29720-22-7, Propionic acid, phenyl-  
(spectrum of)

L15 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1947:14824 CAPLUS

DN 41:14824

OREF 41:2994c-f

ED Entered STN: 22 Apr 2001

TI A recording vacuum- \*\*\*grating\*\*\* spectrometer for the infrared

AU Bell, E. E.; Noble, R. H.; Nielsen, H. H.

CS Ohio State Univ., Columbus

SO Review of Scientific Instruments (1947), 18, 48-56

CODEN: RSINAK; ISSN: 0034-6748

DT Journal

LA Unavailable

CC 3 (Subatomic Phenomena and Radiochemistry)

AB cf. C.A. 41, 1504i. The vacuum chamber is made of 1/4-in. steel plate  
base and wall with a cast steel top with a flange on the under side which  
fits into a groove in the top of the tank. The spectrometer rests on 3  
leveling screws which turn on extensions of the 3 feet which support the  
tank. The radiation source is a Nernst filament so ballasted that the  
glower power is practically independent of line and glower fluctuations.  
The recording system consists of four units: relay, amplifier and power  
supply, control panel, and recorder. Infrared energy received by a  
thermocouple, after passing through the spectrometer, activates a  
galvanometer, which in turn activates a photocell circuit. This current  
is recorded by an Esterline-Angus 5-ma. recording milliammeter or a Leeds  
and Northrup Speedomax recorder. The region covered is from 1 to 20  
microns. The fundamental absorption band of HCl is given showing the  
sepn. of the lines from the two isotopes in the fundamental band obtained  
in the first order. A record of the 2.7-micron band in water vapor is  
given. The sepn., in the first-order spectrum, of the rotational lines of  
the 4.3 micron band of CO2 is also shown.

IT Spectrometers  
(infrared, recording vacuum- \*\*\*grating\*\*\* )

IT Spectra  
(of fluoromethane)

IT 593-53-3, Methane, fluoro-  
(spectrum of)

IT 7647-14-5, Sodium chloride  
(spectrum of \*\*\*resorcinol\*\*\* contg.)



L15 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1928:27091 CAPLUS

DN 22:27091

OREF 22:3168d-g

ED Entered STN: 16 Dec 2001

TI Some new procedures for obtaining hemin derivatives. I

AU Schumm, O.

SO Z. physiol. Chem. (1928), 176, 122-6

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

AB Although hemin loses Fe and yields porphyrin when boiled with  $\text{AcCO}_2\text{H}$  alone, a mixt. of  $\text{PhNH}_2$  and  $\text{AcCO}_2\text{H}$  or  $\text{N}_2\text{H}_4\cdot\text{H}_2\text{O}$  does not convert it into porphyrin but merely saturates the side chains. The product gives the spectrum of mesohemin. Treatment of this with  $\text{N}_2\text{H}_4\cdot\text{AcOH}$  removes the Fe with formation of mesoporphyrin. An Fe-porphyratin corresponding spectroscopically to the above intermediate may be obtained by boiling a soln. of hemin in  $\text{PhNH}_2$  with  $\text{AcOH}$  and Fe powder. If hemin is boiled with pure  $\text{N}_2\text{H}_4\cdot\text{H}_2\text{O}$  such transformation does not occur. The reaction takes place when  $\text{N}_2\text{H}_4\cdot\text{H}_2\text{O}$  is added to hemin in boiling p-toluidine or  $\text{PhOH}$ , or to a boiling suspension of hemin in glycerol, glycol,  $\text{AmOH}$ , olive oil or liquid paraffin, or when hemin is heated with  $\text{N}_2\text{H}_4\cdot\text{H}_2\text{O}$  under pressure at  $200^\circ\text{C}$ . Hemin undergoes a characteristic alteration when melted with pyrogallol or \*\*\*resorcinol\*\*\*. At first a product is formed which behaves spectroscopically like meso-hemin. Further heating yields an Fe-porphyratin which behaves like the Fe complex of copratoporphyrin. The progress of this 2-stage reaction can be followed accurately by means of a \*\*\*grating\*\*\* spectrometer. On removal of the Fe by  $\text{N}_2\text{H}_4\cdot\text{AcOH}$  a porphyrin is then obtained which shows all the properties of copratoporphyrin. The above chem. method represents a distinct advance over the tedious and unpleasant prepn. of copratoporphyrin by means of bacterial putrefaction.

IT 16009-13-5, Hemin

(derivs., prepn. of)

IT 448-65-7, Deuteroporphyrin 493-90-3, Mesoporphyrin

(prepn. of)

=> s l1 and (waveguide)

) IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s l1 and (waveguide)

44400 WAVEGUIDE

34914 WAVEGUIDES

50896 WAVEGUIDE

(WAVEGUIDE OR WAVEGUIDES)

L16 3 L1 AND (WAVEGUIDE)

=> d all 1-3

L16 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:669744 CAPLUS

DN 141:184209

ED Entered STN: 17 Aug 2004

TI Integrated optical \*\*\*waveguide\*\*\* sensor

IN Boss, Pamela A.; Lieberman, Stephen H.

PA United States Dept. of the Navy, USA

SO U.S., 13 pp., Cont.-in-part of U.S. 6,406,777.

CODEN: USXXAM

DT Patent

LA English

IC ICM G01N021-65

INCL 422082110; 356301000

CC 79-2 (Inorganic Analytical Chemistry)

Section cross-reference(s): 61, 73, 80

FAN.CNT 6

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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PI	US 6776962	B1	20040817	US 2002-97765	20020313
	US 6406777	B1	20020618	US 2000-593675	20000614
PRAI	US 2000-593675	A2	20000614		

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CLASS
PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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US 6776962      ICM    G01N021-65
                  INCL   422082110; 356301000
                  IPCI   G01N0021-65 [ICM,7]
                  NCL   422/082.110; 356/301.000
                  ECLA  C03C017/38; G01N033/543K2; G01N033/552
US 6406777      IPCI   B32B0015-00 [ICM,7]; B32B0015-20 [ICS,7]; B32B0003-00
                  [ICS,7]
                  NCL   428/209.000; 428/201.000; 428/203.000; 428/210.000;
                  428/426.000; 428/672.000; 428/673.000; 428/674.000
                  ECLA  C03C017/38; G01N033/543K2; G01N033/552

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AB  An integrated optical ***waveguide*** sensor system includes: an
    optical ***waveguide*** having a monolithic and roughened metallic
    layer on which a self-assembled monolayer is formed; an optical energy
    source for generating an optical excitation signal; and a spectrometer for
    detecting spectra of optical energy emitted from the optical
    ***waveguide***. The ***waveguide*** facilitates multiple SERS
    responses resulting from interactions between the optical excitation
    signal and an analyte of interest that may be present on the surface of
    the self-assembled monolayer. Thus, the sensor system provides a sensor
    for detecting org. contaminants with a sensitivity of ppm and even ppb in
    some cases. By varying the thiol used for forming the self-assembled
    monolayer different analytes, such as VOCs, nitrate and sulfate anions,
    heavy metal ions and alkali metals, can be detected.

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ST  integrated optical ***waveguide*** sensor system
IT  Optical filters
    (bandpass; integrated optical ***waveguide*** sensor system)

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IT  Fiber optic sensors
    Glass substrates
    Raman spectrometers
    SERS (Raman scattering)
    Self-assembled monolayers
    Surface roughness
    (integrated optical ***waveguide*** sensor system)

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IT  Borosilicate glasses
    Thiols, uses
    RL: DEV (Device component use); USES (Uses)
    (integrated optical ***waveguide*** sensor system)

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IT  Optical ***waveguides***
    (integrated; integrated optical ***waveguide*** sensor system)

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IT  Metals, uses
    RL: DEV (Device component use); USES (Uses)
    (layer; integrated optical ***waveguide*** sensor system)

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IT  107-03-9, 1-Propanethiol 156-57-0, Cysteamine hydrochloride
    1141-59-9D, 4-(2-Pyridylazo) ***resorcinol***, disulfide modified
    7440-22-4, Silver, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses
    14187-32-7D, Dibenzo 18-crown-6, thiol derivs. 60676-86-0, Vitreous
    silica
    RL: DEV (Device component use); USES (Uses)
    (integrated optical ***waveguide*** sensor system)

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RE.CNT 8      THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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- (2) Burgess; US 5082629 A 1992 CAPLUS
- (3) Heyns, J; Anal Chem 1994, V66, P1572 CAPLUS
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- (5) Sheehy; US 5527712 A 1996 CAPLUS
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L16  ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:633307  CAPLUS
DN   141:166768
ED   Entered STN:  06 Aug 2004
TI   Synthesis, spectroscopy, and photophysics of multi-chromophoric Zn(II)
      Group 8 metal complexes

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IN Therien, Michael J.; Uyeda, Harry Tetsuo  
 PA The Trustees of the University of Pennsylvania, USA  
 SO U.S. Pat. Appl. Publ., 40 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C08L001-00  
 INCL 524543000; 524556000; 546002000; 548402000  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 26, 72, 73, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004152826	A1	20040805	US 2003-403387	20030328
PRAI	US 2002-368493P	P	20020328		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004152826	ICM	C08L001-00
	INCL	524543000; 524556000; 546002000; 548402000
	IPCI	C08L0001-00 [ICM,7]
	NCL	524/543.000
	ECLA	C07D487/22+257E+209C+209C+209C+209C

OS MARPAT 141:166768  
 GI

/ Structure 2 in file .gra /

AB Novel multichromophoric complexes comprising R1-RA-[MC]-([RM]z-[MC])m-RA-R2 [MC = conjugated macrocycle; RA = covalent bond, C2-C20 alkenyl or alkynyl, C4-C14 cumulenyl; RM = C1-C20 alkyl, C2-C20 alkenyl or alkynyl, C4-C14 cumulenyl, C3-C50 aryl, and various arylalkynyl, heterocycloalkyl, heteroaryl, etc.; R1 = H, halo, protecting group, etc.; m = 0-50, z = 0 or 1] and their metal complexes, are provided. Polymeric compns. and devices comprising the same are also discussed. The complexes are characterized by a central bridging moiety comprising one or a plurality of linked conjugated macrocyclic mols. [MC] coupled to at least one inorg. moiety (R1 and/or R2) through org. linker RA. Prepn. methods include metal-mediated cross-coupling techniques. The complexes can be useful in nonlinear optical devices and other optoelectronic applications. The UV-visible spectra, cyclic voltammetry, and mol. first order hyperpolarizability of some prepd. example compds. of the invention, e.g., ethynyl-bridged ruthenium(II)/osmium(II) terpyridine zinc porphyrinato complexes I(PF6)2 (M = Ru, Os), are measured.

ST zinc porphyrin Group 8 metal terpyridine ethynyl linked prepn; NLO zinc porphyrin Group 8 metal terpyridine multichromophoric; optoelectronic zinc porphyrin Group 8 metal terpyridine multichromophoric; electrochem redox zinc porphyrin Group 8 metal terpyridine multichromophoric; polymer zinc Group 8 metal multichromophoric complex optoelectronic application

IT Group VIII element complexes

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(Group 8; prepn., UV-visible spectra, and mol. first-order hyperpolarizability of multichromophoric zinc(II) Group 8 metal complexes for nonlinear optical devices and optoelectronic applications)

IT Redox reaction

(electrochem.; of multichromophoric ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes)

IT Nonlinear optical materials

(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices)

IT Holographic recording materials

Optical detectors

Optical limiting

Optical \*\*\*waveguides\*\*\*

Photorefractive materials

(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine

complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Photoelectric devices  
(ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for optoelectronic applications)

IT Optical hyperpolarizability  
(mol. first-order hyperpolarizability of ethynyl-bridged ruthenium(II)/osmium(II) terpyridine zinc porphyrinato complexes and related multichromophoric zinc(II) Group 8 metal complexes)

IT UV and visible spectra  
(of multichromophoric ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes)

IT Optical instruments  
(phase shifters; ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Fluoropolymers, uses  
Polyamic acids  
Polycarbonates, uses  
Polyesters, uses  
Polyimides, uses  
Polyolefins  
Polyurethanes, uses  
RL: DEV (Device component use); USES (Uses)  
(polymer compns. contg. ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Porphyrins  
RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. of ethynyl-linked porphyrins and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT Metalloporphyrins  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(zinc; prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 171204-91-4 478183-91-4 478183-93-6  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(mol. first-order hyperpolarizability as multichromophoric complex for NLO devices and other optoelectronic applications)

IT 9003-53-6  
RL: DEV (Device component use); USES (Uses)  
(polymer compns. contg. ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 478183-87-8P 478183-89-0P 478183-95-8P  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 478184-19-9P 478184-20-2P 478184-33-7P 731794-51-7P 731794-55-1P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 108-46-3, \*\*\*Resorcinol\*\*\*, reactions 624-95-3, 3,3-Dimethyl-1-butanol 1066-54-2, Trimethylsilylacetylene 21211-65-4, Dipyrromethane 72905-30-7 78389-87-4 97393-18-5 478184-36-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal terpyridine complexes and related multichromophoric complexes for NLO devices and other optoelectronic applications)

IT 149817-62-9P 183803-99-8P 211450-16-7P 478184-21-3P 478184-24-6P  
478184-27-9P 478184-29-1P 478184-31-5P 478184-34-8P 478184-35-9P  
478184-37-1P 478184-38-2P 478184-39-3P 478184-40-6P 478184-41-7P  
478184-42-8P 478184-44-0P 731794-60-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)  
(prepn. of ethynyl-linked zinc(II) porphyrinato Group 8 metal  
terpyridine complexes and related multichromophoric complexes for NLO  
devices and other optoelectronic applications)

L16 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:321371 CAPLUS  
DN 139:16629  
ED Entered STN: 27 Apr 2003  
TI Selective measurement of gaseous hydrogen peroxide with light emitting  
diode-based liquid-core \*\*\*waveguide\*\*\* absorbance detector  
AU Li, Jianzhong; Dasgupta, Purnendu K.  
CS Department of Chemistry and Biochemistry, Texas Tech University, Lubbock,  
TX, 79409-1061, USA  
SO Analytical Sciences (2003), 19(4), 517-523  
CODEN: ANSCEN; ISSN: 0910-6340  
PB Japan Society for Analytical Chemistry  
DT Journal  
LA English  
CC 79-2 (Inorganic Analytical Chemistry)  
Section cross-reference(s): 59  
AB Atm. H2O2 is typically detd. by enzymically mediated fluorogenic reactions  
that do not discriminate between H2O2 and org. peroxides. Reactions of  
Ti(IV) with H2O2 also was the basis of colorimetric measurements of H2O2  
but is too insensitive. A more sensitive detn. is possible with the  
Ti(IV)-4-(2-pyridylazo) \*\*\*resorcinol\*\*\* (PAR) complex, however,  
unreacted PAR must be chromatog. sepd. A titanium(IV)-porphyrin complex,  
oxo[5,10,15,20-tetra(4-pyridyl)porphyrinato]titanium(IV) [TiO(tpypH4)4+],  
(TiTPyP) was introduced for the measurement of aq. H2O2. TiTPyP can be  
used for measuring H2O2(g), it does not respond to MeHO2. With a proper  
membrane collector, practically there is no interference from concurrently  
present gaseous SO2 and O3. The approach permits a S/N = 3 limit of  
detection (LOD) of 26 pptv with a 50 mm path liq. core \*\*\*waveguide\*\*\*  
(LCW) absorbance detector and a light emitting diode based light source.  
This is adequate for real atm. measurements.  
ST hydrogen peroxide detn LED liq core \*\*\*waveguide\*\*\* absorbance  
detector  
IT Colorimetry  
Electroluminescent devices  
Gas analysis  
Optical gas sensors  
Optical \*\*\*waveguides\*\*\*  
(gaseous hydrogen peroxide detn. by optical gas sensor with light  
emitting diode-based liq.-core \*\*\*waveguide\*\*\* and tetrapyrrolyl  
porphyrinato titanium)  
IT 7722-84-1, Hydrogen peroxide, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(gaseous hydrogen peroxide detn. by optical gas sensor with light  
emitting diode-based liq.-core \*\*\*waveguide\*\*\* and tetrapyrrolyl  
porphyrinato titanium)  
IT 105250-49-5, Oxo[5,10,15,20-tetrakis(4-pyridyl)porphyrinato]titanium(IV)  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(gaseous hydrogen peroxide detn. by optical gas sensor with light  
emitting diode-based liq.-core \*\*\*waveguide\*\*\* and tetrapyrrolyl  
porphyrinato titanium)  
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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=> s l1 and ((optical or laser or information) (5a) (med? or disk or disc))
      861336 OPTICAL
      19 OPTICALS
      861344 OPTICAL
            (OPTICAL OR OPTICALS)
      512525 LASER
      159629 LASERS
      525731 LASER
            (LASER OR LASERS)
      395419 INFORMATION
      3003 INFORMATIONS
      397821 INFORMATION
            (INFORMATION OR INFORMATIONS)
      1859557 MED?
      118533 DISK
      58469 DISKS
      148548 DISK
            (DISK OR DISKS)
      15398 DISC
      3330 DISCS
      18213 DISC
            (DISC OR DISCS)
      45497 (OPTICAL OR LASER OR INFORMATION) (5A) (MED? OR DISK OR DISC)
L17      12 L1 AND ((OPTICAL OR LASER OR INFORMATION) (5A) (MED? OR DISK OR
            DISC))
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=> d all 1-12

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L17  ANSWER 1 OF 12  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2005:300753  CAPLUS
DN   142:382265
ED   Entered STN:  07 Apr 2005
TI   ***Optical***  ***disk***  having specific hydroxyphenol derivative
      and silver-based reflective layer
IN   Fujii, Koichi; Murakami, Kazuo
PA   Dainippon Ink and Chemicals, Inc., Japan
SO   PCT Int. Appl., 36 pp.
      CODEN: PIXXD2
DT   Patent
LA   Japanese
IC   ICM G11B007-24
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
      Reprographic Processes)
FAN.CNT 1
      PATENT NO.          KIND      DATE          APPLICATION NO.          DATE
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PI WO 2005031729 A1 20050407 WO 2004-JP14556 20040928  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK,  
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,  
 NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,  
 TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG  
 PRAI JP 2003-340350 A 20030930  
 JP 2003-424804 A 20031222

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2005031729 ICM G11B007-24  
 IPCI G11B0007-24 [ICM,7]

OS MARPAT 142:382265

AB The invention relates to an \*\*\*optical\*\*\* \*\*\*disk\*\*\* comprising a  
 first substrate and, sequentially superimposed thereon, a first reflection  
 film for reflecting laser radiation beams for information reading and a  
 resin layer consisting of a coating process resulting from hardening of an  
 UV hardenable compn., wherein the first reflection film is one constituted  
 of silver or an alloy whose main component is silver and wherein the UV  
 hardenable compn. comprises a radical polymerizable compd. (a), a  
 hydroxyphenol deriv. (b) and a radical photopolymn. initiator (c). The  
 disk generates little color change of the Ag-based reflective layer under  
 UV light.

ST \*\*\*optical\*\*\* \*\*\*disk\*\*\* hydroxyphenol silver reflective layer

IT 98-29-3, 4-tert-Butylcatechol 108-46-3, \*\*\*Resorcinol\*\*\*, uses  
 121-79-9, Propyl gallate 123-31-9, Hydroquinone, uses 149-91-7, Gallic  
 acid, uses 533-73-3, Hydroxyhydroquinone

RL: TEM (Technical or engineered material use); USES (Uses)

( \*\*\*optical\*\*\* \*\*\*disk\*\*\* having phenolic deriv. and  
silver-based reflective layer)

IT 7440-22-4D, Silver, alloy

RL: DEV (Device component use); USES (Uses)

(reflective layer; \*\*\*optical\*\*\* \*\*\*disk\*\*\* having phenolic  
deriv. and silver-based reflective layer)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Asahi Chemical Industry Co Ltd; JP 02-141284 A 1990 CAPLUS

(2) Asahi Chemical Industry Co Ltd; EP 361204 A2 1990

(3) Asahi Chemical Industry Co Ltd; US 5578415 A1 1990 CAPLUS

(4) Nippon Kayaku Co Ltd; JP 2002265886 A 2002 CAPLUS

L17 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:185484 CAPLUS

DN 142:287883

ED Entered STN: 04 Mar 2005

TI Limited-play recordable data storage media and associated methods of  
manufacture

IN Wisnudel, Marc Brian; Van De Grampel, Hendrik Theodorus; Robertson,  
Randall Allen; Bakos, Yannis; Thompson, Robert F.

PA USA

SO U.S. Pat. Appl. Publ., 22 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM G11B003-70

ICS G11B005-84; G11B007-26; B32B003-02

INCL 720718000; 369288000; 428064400

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005050571	A1	20050303	US 2003-651403	20030829
	WO 2005024811	A1	20050317	WO 2004-US22691	20040715

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

PRAI US 2003-651403 A 20030829

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005050571	ICM	G11B003-70
	ICS	G11B005-84; G11B007-26; B32B003-02
	INCL	720718000; 369288000; 428064400
	IPCI	G11B0003-70 [ICM,7]; G11B0005-84 [ICS,7]; G11B0007-26 [ICS,7]; B32B0003-02 [ICS,7]
	NCL	720/718.000
	ECLA	G11B007/241; G11B007/257
WO 2005024811	IPCI	G11B0007-24 [ICM,7]
	ECLA	G11B007/241; G11B007/257

AB The present invention provides a digital content kiosk system operable for delivering selected digital content to a user. The digital content kiosk system of the present invention includes a limited-play recordable data storage medium configured to receive selected digital content and a data storage media recording device operable for recording the selected digital content on the limited-play recordable data storage medium at the request of a user. The limited-play recordable data storage medium of the present invention includes a reflective layer, a recording layer disposed directly or indirectly adjacent to the reflective layer, and at least one of a reactive layer and a reactive bonding adhesive layer disposed between the data storage media recording device and at least one of the reflective layer and the recording layer.

ST limited play recordable data storage media manuf

IT \*\*\*Optical\*\*\* \*\*\*disks\*\*\*

Optical recording

(limited-play recordable data storage media)

IT 89-86-1, 2,4-Dihydroxybenzoic acid 95-88-5, 4-Chloro- \*\*\*resorcinol\*\*\*  
 108-46-3, \*\*\*Resorcinol\*\*\*, uses 136-77-6, 4-Hexylresorcinol  
 59269-51-1, Polyhydroxystyrene

RL: TEM (Technical or engineered material use); USES (Uses)

(photobleaching retarder; limited-play recordable data storage media contg.)

L17 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:98916 CAPLUS

DN 142:186624

ED Entered STN: 04 Feb 2005

TI Limited play data storage media and associated methods of manufacture

IN Wisnudel, Marc Brian; Longley, Kathryn Lynn; Olson, Daniel Robert; Lens, Jan Pleun; Lindholm, Edward Paul

PA General Electric Company, USA

SO U.S. Pat. Appl. Publ., 21 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM B32B027-32

ICS B32B027-42; C09J011-00

INCL 428523000; 156327000; 156334000; 156335000

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 77

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005025988	A1	20050203	US 2003-633473	20030801
	US 6925051	B2	20050802		
	WO 2005014751	A1	20050217	WO 2004-US20691	20040625
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,			



CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

PRAI US 2003-633473 A 20030801

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005025988	ICM	B32B027-32
	ICS	B32B027-42; C09J011-00
	INCL	428523000; 156327000; 156334000; 156335000
	IPCI	B32B0027-32 [ICM,7]; B32B0027-42 [ICS,7]; C09J0011-00 [ICS,7]
	NCL	428/523.000
	ECLA	C09J009/00; C09J011/06; C09J011/08; G11B007/253; G11B007/257
WO 2005014751	IPCI	C09J0011-06 [ICM,7]; C09J0011-08 [ICS,7]; G11B0007-24 [ICS,7]
	ECLA	C09J009/00; C09J011/06; C09J011/08; G11B007/253; G11B007/257

AB The present invention provides a reactive adhesive formulation for use in a limited play data storage medium, the reactive adhesive formulation including at least one adhesive material, at least one reactive material disposed within the at least one adhesive material and at least one photo-bleaching retarder material disposed within the at least one adhesive material. The at least one photo-bleaching retarder material includes \*\*\*resorcinol\*\*\*, 4-hexylresorcinol and/or polyhydroxystyrene.

ST magnetic \*\*\*optical\*\*\* magneto-optical recording \*\*\*disk\*\*\* photo bleaching retarder adhesive

IT Recording apparatus  
 (disks; photo-bleaching retarder material contained adhesive for limited play data storage medium)

IT Magnetic disks  
 \*\*\*Optical\*\*\* \*\*\*disks\*\*\*  
 (magneto-optical \*\*\*disks\*\*\*; photo-bleaching retarder material contained adhesive for limited play data storage medium)

IT Adhesives  
 Magnetic disks  
 \*\*\*Optical\*\*\* \*\*\*disks\*\*\*  
 (photo-bleaching retarder material contained adhesive for limited play data storage medium)

IT 79-97-0, 2,2-Bis(4-hydroxy-3-methylphenyl)propane 80-05-7, Bisphenol A, uses 93-51-6, 2-Methoxy-4-methylphenol 99-89-8, 4-Isopropylphenol 102-60-3, THPE 108-46-3, \*\*\*Resorcinol\*\*\*, uses 136-77-6, 4-Hexylresorcinol 622-62-8, 4-Ethoxyphenol 2082-79-3, Irganox 1076 6683-19-8, Irganox 1010 26983-52-8, Biphenol 41484-35-9, Irganox 1035 59269-51-1, Polyhydroxystyrene

RL: NUU (Other use, unclassified); USES (Uses)  
 (photo-bleaching retarder material contained adhesive for limited play data storage medium)

L17 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:993183 CAPLUS

DN 141:412099

ED Entered STN: 19 Nov 2004

TI Fire-resistant thermoplastic resin composition with thermal conductivity

IN Kikuchi, Kiyoharu

PA Teijin Chemicals Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L069-00

ICS C08K003-34; C08K005-521; C08L071-12

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004323565	A2	20041118	JP 2003-116707	20030422
PRAI	JP 2003-116707		20030422		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 2004323565	ICM	C08L069-00
		ICS	C08K003-34; C08K005-521; C08L071-12
		IPCI	C08L0069-00 [ICM,7]; C08K0003-34 [ICS,7]; C08K0005-521 [ICS,7]; C08L0071-12 [ICS,7]
		FTERM	4J002/BC022; 4J002/BC032; 4J002/BC062; 4J002/BC072; 4J002/BC112; 4J002/BD153; 4J002/BD163; 4J002/CG001; 4J002/CG011; 4J002/CG021; 4J002/CG041; 4J002/CH071; 4J002/DJ008; 4J002/DJ047; 4J002/DJ058; 4J002/EH039; 4J002/EH049; 4J002/EW046; 4J002/EW156; 4J002/FD017; 4J002/FD018; 4J002/FD050; 4J002/FD060; 4J002/FD070; 4J002/FD100; 4J002/FD136; 4J002/FD169; 4J002/GP00
AB	The compn. contains (A) an arom. polycarbonate, a styrene (I)-based hard polymer, and/or a poly(phenylene ether), (B) 0.1-30% of an org. P compd. fireproofing agent, (C-1) c1% of talc with av. particle diam. 0.5-30 .mu.m, and (C-2) c2% of mica and/or wollastonite filler at 10 .ltoreq. c1 + c2 .ltoreq. 50 and 0.5 .ltoreq. c1/(c1 + c2) .ltoreq. 0.9. A chassis for optical device unit, e.g., a laser printer, a copying machine, etc., made of the compn. is also claimed. Thus, bisphenol A-phosgene copolymer (Panlite L 1225 WP) 58, acrylonitrile-I copolymer (HF 5670) 12, ***resorcinol*** bis(dixylenyl phosphate) (ADK Stab FP 500) 5, talc (Victorylight R) 16, muscovite (MC 40) 9, PTFE (Polyflon MPA FA 500) 0.3, ethylene glycol montanate (WAX-E Powder) 0.3, and carbon black 1 part were mixed, pelletized, and injection-molded to give test pieces showing UL-94 flame retardance V-1, impact strength 40 J/m, and thermal cond. 0.35 W/m-k.		
ST	fire resistant thermoplastic resin thermal cond; arom polycarbonate phosphorus compd fireproofing agent; styrene acryonitrile copolymer fireproofing agent; polyoxyphenylene fireproofing agent talc mica; optical device unit chassis thermoplastic blend		
IT	***Optical*** ***disks*** (chassis of driving app. for; fire-resistant thermoplastic resin compn. with thermal cond. for)		
IT	Fire-resistant materials Impact-resistant materials Thermal conductors (fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	Polycarbonates, uses Polyoxyphenylenes RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	Polymer blends RL: TEM (Technical or engineered material use); USES (Uses) (fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	Fluoropolymers, uses RL: MOA (Modifier or additive use); USES (Uses) (in fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	Fatty acids, uses RL: MOA (Modifier or additive use); USES (Uses) (montan-wax, butylene ethylene esters, WAX E; in fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	Fireproofing agents (phosphorus compd.; fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	1318-94-1, MC 250 RL: MOA (Modifier or additive use); USES (Uses) (MC 40; in fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	14807-96-6, Victorylight R, uses RL: MOA (Modifier or additive use); USES (Uses) (Victorylight SG-A; in fire-resistant thermoplastic resin compn. with thermal cond.)		
IT	9003-53-6, Denka Styrol GP-1 9003-54-7, HF 5670 24936-68-3, Panlite L		

1225WP, uses 25037-45-0  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (fire-resistant thermoplastic resin compn. with thermal cond.)  
 IT 31870-48-1, CR 741 139189-30-3, ADK Stab FP 500  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (fireproofing agent; fire-resistant thermoplastic resin compn. with thermal cond.)  
 IT 9002-84-0, Polyflon MPA FA500 13983-17-0, PH 450  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (in fire-resistant thermoplastic resin compn. with thermal cond.)

L17 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2003:1007908 CAPLUS  
 DN 140:60508  
 ED Entered STN: 28 Dec 2003  
 TI Method for making an aromatic polycarbonate  
 IN Silvi, Norberto; Giammattei, Mark Howard; McCloskey, Patrick Joseph; Nisoli, Alberto; Day, James; Ramesh, Narayan; Smigelski, Paul Michael; Wilson, Paul Russell  
 PA General Electric Company, USA  
 SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U.S. Ser. No. 167,901.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C08G064-00  
 INCL 528086000; 528196000  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003236384	A1	20031225	US 2003-389009	20030317
	US 6790929	B2	20040914		
	US 2003232957	A1	20031218	US 2002-167901	20020612
	WO 2003106149	A1	20031224	WO 2003-US16354	20030523
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1519831	A1	20050406	EP 2003-760224	20030523
	R:				
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2005529995	T2	20051006	JP 2004-513013	20030523
PRAI	US 2002-167901	A2	20020612		
	US 2003-389009	A	20030317		
	WO 2003-US16354	W	20030523		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003236384	ICM	C08G064-00
	INCL	528086000; 528196000
	IPCI	C08G0064-00 [ICM,7]
	NCL	528/086.000
	ECLA	B29C047/00B; B29C047/76C; B29C067/24D; C08G064/30F
US 2003232957	IPCI	C08G0002-00 [ICM,7]; C08G0064-00 [ICS,7]
	NCL	528/086.000
	ECLA	B29C047/00B; B29C047/76C; B29C067/24D; C08G064/30F
WO 2003106149	IPCI	B29C0067-24 [ICM,7]; B29C0047-76 [ICS,7]; C08G0064-30 [ICS,7]
	ECLA	C08G064/30F
EP 1519831	IPCI	B29C0067-24 [ICM,7]; B29C0047-76 [ICS,7]; C08G0064-30 [ICS,7]
JP 2005529995	IPCI	C08G0064-30 [ICM,7]; C08G0064-14 [ICS,7]
	FTERM	4J029/AA09; 4J029/AA10; 4J029/AB02; 4J029/AB04;

4J029/AB07; 4J029/AC01; 4J029/AC02; 4J029/AD01;  
 4J029/AE04; 4J029/AE05; 4J029/BB13A; 4J029/BH02;  
 4J029/DB12; 4J029/DB13; 4J029/HC05A; 4J029/JA091;  
 4J029/JA251; 4J029/JB062; 4J029/JB063; 4J029/JC061;  
 4J029/JC631; 4J029/KB15; 4J029/KD01; 4J029/KD02;  
 4J029/KE02; 4J029/LA01; 4J029/LA05

OS MARPAT 140:60508

AB This invention relates to an extrusion method prep. high mol. wt. polycarbonates (greater than 20,000 daltons) from a soln. of an oligomeric polycarbonate. A mixt. of bis(Me salicyl)carbonate, bisphenol A and a transesterification catalyst (usually tetrabutylphosphonium acetate or its combination with NaOH) are first equilibrated at moderate temps. to provide a soln. of polycarbonate oligomer in Me salicylate. The soln. is then fed to a devolatilizing extruder, where the polymn. reaction is completed and the Me salicylate solvent is removed. The soln. comprising the oligomeric polycarbonate can also be pre-heated under pressure to a temp. above the b.p. of Me salicylate and subsequently fed to a devolatilizing extruder equipped for rapid flashing off the solvent. The method of the invention does not require the isolation of a precursor polycarbonate comprising ester-substituted phenoxy terminal groups and gives the colorless product. Fries rearrangement products (usual side products) are not obsd. in the product polycarbonates.

ST polycarbonate extrusion melt polymn method methyl salicyl carbonate; high mol wt polycarbonate melt polymn ester substituted; Fries rearrangement suppression

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (arom.; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (branched; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Molded plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates for molded plastics)

IT \*\*\*Optical\*\*\* \*\*\*disks\*\*\*

(extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates for \*\*\*optical\*\*\* \*\*\*disks\*\*\* )

IT Polysulfones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polycarbonate-; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polysulfone-; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Extrusion of plastics and rubbers

(reactive; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Carboxylic acids, uses

RL: CAT (Catalyst use); USES (Uses)  
 (salts, with alkali- or alkali earth metals, transesterification catalyst; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Alkali metal hydroxides

Alkaline earth hydroxides

Phosphonium compounds

Quaternary ammonium compounds, uses

RL: CAT (Catalyst use); USES (Uses)  
 (transesterification catalyst; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT Polymerization catalysts

(transesterification, transesterification; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT 637781-43-2P

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (branched; extrusion method for making high mol. wt. arom. polycarbonate from an oligomeric polycarbonates)

IT 24936-68-3D, p-cumylphenyl-terminated 638132-24-8, Bis(methyl salicyl)carbonate-bisphenol A copolymer, p-cumylphenyl ester

RL: RCT (Reactant); RACT (Reactant or reagent)  
(chain stopper; extrusion method for making high mol. wt. arom.  
polycarbonate from an oligomeric polycarbonates)

IT 82091-13-2P, Bis(methyl salicyl)carbonate-bisphenol A copolymer  
474083-68-6P 474084-87-2P, Bis(methyl salicyl)carbonate-bisphenol  
A-4,4'-sulfonyldiphenol copolymer 474084-95-2P, Bis(methyl  
salicyl)carbonate-bisphenol A-4,4'-dihydroxybiphenyl copolymer  
477527-64-3P, Bis(methyl salicyl)carbonate-bisphenol A-hydroquinone-  
\*\*\*resorcinol\*\*\* copolymer 636600-75-4P, Bis(methyl  
salicyl)carbonate-bisphenol A-methylhydroquinone-copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)  
(extrusion method for making high mol. wt. arom. polycarbonate from an  
oligomeric polycarbonates)

IT 24936-68-3P, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP  
(Preparation); USES (Uses)  
(extrusion method for making high mol. wt. arom. polycarbonate from an  
oligomeric polycarbonates)

IT 119-36-8, Methyl salicylate  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; extrusion method for making high mol. wt. arom. polycarbonate  
from an oligomeric polycarbonates)

IT 75-59-2, Tetramethylammonium hydroxide 7558-79-4, Phosphoric acid,  
disodium salt 7558-80-7 7778-77-0, Phosphoric acid, monopotassium salt  
14402-88-1, Disodium magnesium ethylenediaminetetraacetate 14518-27-5  
18649-05-3, Phosphoric acid, monocesium salt 30345-49-4,  
Tetrabutylphosphonium acetate 33943-65-6, Phosphoric acid, dicesium salt  
634558-37-5 634558-39-7  
RL: CAT (Catalyst use); USES (Uses)  
(transesterification catalyst; extrusion method for making high mol.  
wt. arom. polycarbonate from an oligomeric polycarbonates)

IT 1310-73-2, Sodium hydroxide, uses  
RL: CAT (Catalyst use); USES (Uses)  
(transesterification co-catalyst; extrusion method for making high mol.  
wt. arom. polycarbonate from an oligomeric polycarbonates)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

- RE
- (1) Anon; EP 0738579 1996 CAPLUS
  - (2) Anon; EP 0976772 2000 CAPLUS
  - (3) Anon; EP 980861 2000 CAPLUS
  - (4) Anon; EP 1114841 2001 CAPLUS
  - (5) Anon; WO 02060855 2002 CAPLUS
  - (6) Anon; EP 1191049 2002 CAPLUS
  - (7) Brunelle; US 4323668 A 1982 CAPLUS
  - (8) Cobb; US 6506781 B1 2003 CAPLUS
  - (9) Day; US 6339109 B1 2002 CAPLUS
  - (10) Kaneko; US 5696222 A 1997 CAPLUS
  - (11) Kaneko; US 6300459 B1 2001 CAPLUS
  - (12) McCloskey; US 6420512 B1 2002 CAPLUS

L17 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:170360 CAPLUS  
DN 138:205503  
ED Entered STN: 06 Mar 2003  
TI Polyester-polycarbonates from spirochromandiols  
IN Wehrmann, Rolf; Heuer, Helmut Werner  
PA Bayer AG, Germany  
SO Ger. Offen., 18 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
IC ICM C08G063-80  
ICS C08G063-64; C08J005-10; C08J005-18; G02B001-04  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 27

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10141621	A1	20030306	DE 2001-10141621	20010824
	WO 2003020714	A1	20030313	WO 2002-EP8997	20020812
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,			

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
 UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,  
 TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
 PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG

EP 1421072 A1 20040526 EP 2002-762440 20020812  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
 JP 2005507956 T2 20050324 JP 2003-524984 20020812  
 US 2003120024 A1 20030626 US 2002-224004 20020820  
 US 6696543 B2 20040224  
 TW 583183 B 20040411 TW 2002-91119066 20020823  
 PRAI DE 2001-10141621 A 20010824  
 WO 2002-EP8997 W 20020812

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 10141621	ICM	C08G063-80
	ICS	C08G063-64; C08J005-10; C08J005-18; G02B001-04
	IPCI	C08G0063-80 [ICM,7]; C08G0063-64 [ICS,7]; C08J0005-10 [ICS,7]; C08J0005-18 [ICS,7]; G02B0001-04 [ICS,7]
WO 2003020714	ECLA	C07D493/10+311B+311B+4; C08G063/64
	IPCI	C07D0311-96 [ICM,7]; C08G0063-64 [ICS,7]
	ECLA	C07D493/10+311B+311B+4; C08G063/64
EP 1421072	IPCI	C07D0311-96 [ICM,7]; C08G0063-64 [ICS,7]
JP 2005507956	IPCI	C08G0063-64 [ICM,7]; C07D0493-10 [ICS,7]
	FTERM	4C071/AA04; 4C071/AA07; 4C071/BB01; 4C071/BB06; 4C071/BB08; 4C071/CC12; 4C071/DD21; 4C071/EE07; 4C071/FF17; 4C071/GG01; 4C071/HH05; 4C071/JJ01; 4C071/KK01; 4C071/LL03; 4J029/AA08; 4J029/AB01; 4J029/AC02; 4J029/AD01; 4J029/AE04; 4J029/AE05; 4J029/BB06C; 4J029/BB12C; 4J029/BB13A; 4J029/BD09C; 4J029/BF30; 4J029/CA02; 4J029/HA01; 4J029/HB01; 4J029/HC01; 4J029/KB02; 4J029/KE09; 4J029/KE11
US 2003120024	IPCI	C08G0064-00 [ICM,7]
	IPCR	C07D0493-00 [I,C]; C07D0493-10 [I,A]; C08G0063-00 [I,C]; C08G0063-64 [I,A]
	NCL	528/196.000
	ECLA	C07D493/10+311B+311B+4; C08G063/64
TW 583183	IPCI	C07D0311-96 [ICM,7]; C08G0063-64 [ICS,7]
OS	MARPAT 138:205503	
AB	Moldable polyester-polycarbonates are manufd. from spirochromandiols I (R1-7 = H, halo, C1-14 alkyl, C6-19 aryl, or C7-14 aralkyl).	
ST	polyester polycarbonate spirochromandiol deriv manuf	
IT	Polymesters, preparation	
	RL: IMF (Industrial manufacture); PREP (Preparation)	
	(polycarbonate-; polyester-polycarbonates from spirochromandiols)	
IT	Polycarbonates, preparation	
	RL: IMF (Industrial manufacture); PREP (Preparation)	
	(polycarbonates from spirochromandiols)	
IT	Polycarbonates, preparation	
	RL: IMF (Industrial manufacture); PREP (Preparation)	
	(polyester-; polyester-polycarbonates from spirochromandiols)	
IT	***Optical***	
	***disks***	
	(polyester-polycarbonates from spirochromandiols for ***optical***	
	***disks*** )	
IT	Lenses	
	(polyester-polycarbonates from spirochromandiols for optical lenses)	
IT	Plastic films	
	(polyester-polycarbonates from spirochromandiols for plastic films)	
IT	Molded plastics, miscellaneous	
	RL: MSC (Miscellaneous)	
	(sheets; polyester-polycarbonates from spirochromandiols for sheets)	
IT	67-64-1, Acetone, reactions 78-93-3, Methyl ethyl ketone, reactions	
	108-46-3, ***Resorcinol***, reactions 110-12-3, 5-Methyl-2-hexanone	
	136-77-6, 4-Hexylresorcinol 504-20-1, Phorone 2896-60-8,	
	4-Ethylresorcinol 35225-79-7, trans, trans-1,5-Diphenyl-1,4-pentadien-3-one	

RL: RCT (Reactant); RACT (Reactant or reagent)  
(monomer precursor; polyester-polycarbonates from spirochromandiols)  
IT 154778-81-1P 288149-09-7P 500343-78-2P 500343-79-3P 500343-80-6P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(monomer; polyester-polycarbonates from spirochromandiols)  
IT 3127-14-8P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(monomer; polyester-polycarbonates from spirochromandiols)  
IT 500343-76-0P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polyester-polycarbonates from spirochromandiols)

L17 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:700058 CAPLUS

DN 138:106837

ED Entered STN: 16 Sep 2002

TI Synthesis of optically active tricyclic ethers by reactions of  
(-)-.beta.-pinene with phenols in organized media

AU Fomenko, Vladislav V.; Korchagina, Dina V.; Salakhutdinov, Nariman F.;  
Barkhash, Vladimir A.

CS Novosibirsk Institute of Organic Chemistry, Novosibirsk, 630090, Russia

SO Helvetica Chimica Acta (2002), 85(8), 2358-2363

CODEN: HCACAV; ISSN: 0018-019X

PB Verlag Helvetica Chimica Acta

DT Journal

LA English

CC 30-10 (Terpenes and Terpenoids)

OS CASREACT 138:106837

AB The reactions of (-)-.beta.-pinene with some methyl- and  
hydroxy-substituted phenols on H.beta.-zeolite yield optically active  
products - tricyclic terpenyl Ph ethers - in contrast to reactions in  
homogeneous \*\*\*media\*\*\*, which occur with loss of \*\*\*optical\*\*\*  
activity. The formation of these products is promoted by the presence of  
meta-substituents in the phenol mol.

ST tricyclic ether optically active prepn pinene phenol reaction zeolite

IT Asymmetric synthesis and induction

(synthesis of optically active tricyclic ethers from (-)-.beta.-pinene  
and phenols on H.beta.-zeolite)

IT Beta zeolites

RL: CAT (Catalyst use); USES (Uses)

(synthesis of optically active tricyclic ethers from (-)-.beta.-pinene  
and phenols on H.beta.-zeolite)

IT 108-39-4, m-Cresol, reactions 108-46-3, \*\*\*Resorcinol\*\*\*, reactions  
108-68-9, 3,5-Dimethylphenol 120-80-9, Pyrocatechol, reactions  
18172-67-3, (-)-.beta.-Pinene

RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of optically active tricyclic ethers from (-)-.beta.-pinene  
and phenols on H.beta.-zeolite)

IT 66465-58-5P 66465-60-9P 488758-91-4P 488758-92-5P 488758-93-6P  
488758-94-7P 488758-95-8P 488758-96-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis of optically active tricyclic ethers from (-)-.beta.-pinene  
and phenols on H.beta.-zeolite)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ewing, D; Org Magn Reson 1979, V12, P499 CAPLUS
- (2) Fomenko, V; Helv Chim Acta 2001, V84, P3477 CAPLUS
- (3) Fomenko, V; Zh Org Khim 2000, V36, P1819
- (4) Fomenko, V; Zh Org Khim 2000, V36, P564
- (5) Polovinka, M; Zh Org Khim 1985, V21, P2102 CAPLUS
- (6) Popova, L; Zh Org Khim 1982, V18, P815 CAPLUS
- (7) Pottier, E; Bull Soc Chim Fr 1977, P557 CAPLUS
- (8) Salakhutdinov, N; Chemistry Reviews 1998, V23, P1
- (9) Salakhutdinov, N; Tetrahedron 1998, V54, P15619 CAPLUS
- (10) Stern, M; J Org Chem 1973, V38, P1264 CAPLUS
- (11) Stevens, K; Tetrahedron 1972, V28, P2949
- (12) Wadlinger, R; 1967 CAPLUS

L17 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:356346 CAPLUS

DN 132:348743

ED Entered STN: 30 May 2000  
 TI Fire-resistant polycarbonate-styrene polymer blend compositions with good  
 melt fluidity, their antifriction moldings, and their products  
 IN Nodera, Akio; Manda, Naoki; Takeuchi, Takanao  
 PA Idemitsu Petrochemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L069-00  
 ICS C08J005-00; C08K005-521; C08L025-04; C08L027-12; C08L051-00;  
 C08L083-04  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 74

FAN.CNT 1					
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000143965	A2	20000526	JP 1998-322422	19981112
	JP 3432434	B2	20030804		
	US 6197857	B1	20010306	US 1999-433210	19991104
	DE 19953297	A1	20000615	DE 1999-19953297	19991105
PRAI	JP 1998-322422	A	19981112		

CLASS			PATENT FAMILY CLASSIFICATION CODES		
PATENT NO.	CLASS				
JP 2000143965	ICM	C08L069-00			
	ICS	C08J005-00; C08K005-521; C08L025-04; C08L027-12; C08L051-00; C08L083-04			
	IPCI	C08L0069-00 [ICM,7]; C08J0005-00 [ICS,7]; C08K0005-521 [ICS,7]; C08L0025-04 [ICS,7]; C08L0027-12 [ICS,7]; C08L0051-00 [ICS,7]; C08L0083-04 [ICS,7]			
US 6197857	IPCI	C08K0005-52 [ICM,7]			
	NCL	524/141.000; 524/140.000; 524/143.000; 524/145.000; 524/267.000; 524/269.000			
	ECLA	C08L051/04+B; C08L051/04+B4; C08L051/08S+B; C08L051/08S+B4; C08L069/00+B			
DE 19953297	IPCI	C08L0069-00 [ICM,7]; C08L0025-04 [ICS,7]; C08L0027-12 [ICS,7]; C08L0051-08 [ICS,7]			
	ECLA	C08L051/04+B; C08L069/00+B; C08L051/04+B4; C08L051/08S+B4; C08L051/08S+B			

AB The compns., useful for CD trays and bearings for CRT monitors, contain 60-99% polycarbonates, 1-40% styrene polymers, 1-30 parts (to 100 parts of the total polymers) phosphate esters, and 0.3-3 parts silicone oils with viscosity 1000-20,000 cs. The compns. are useful for manufg. thin moldings. An injection molding manufd. from Toughlon A1900 (bisphenol A polycarbonate, MI 20 g/10 min, at 300.degree., 1.2 kg-load) 80, PS IT44 (styrene-grafted polybutadiene) 20, tri-Ph phosphate 10, TSF 451 (silicone oil, viscosity 5000 cs) 2 parts, and antioxidants showed good appearance, UL-94 flammability rating V-2, Izod impact strength (ASTM D256) 40 kJ/m2, and friction coeff. (JIS K7218) 0.25 kg.

ST impact resistance polycarbonate moldability fireproofer phosphate; bisphenol A polycarbonate antifriction bearing silicone; styrene butadiene graft copolymer polycarbonate blend

IT Silicone rubber, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (composites with (meth)acrylate rubbers, grafted; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Acrylic rubber  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (composites with silicone rubbers, grafted; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Antifriction materials  
 Bearings  
 Fire-resistant materials  
 Impact-resistant materials  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Polysiloxanes, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)



(fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Polycarbonates, uses  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Polymer blends  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Molded plastics, uses  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Fluoropolymers, uses  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Cathode ray tubes  
 (monitors, bearings for; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT Fireproofing agents  
 (phosphates; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT \*\*\*Optical\*\*\* ROM \*\*\*disks\*\*\*  
 (trays for; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT 106974-54-3, Butadiene-styrene graft copolymer  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (PS IT 44; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT 9016-00-6, TSF 451 31900-57-9, Dimethylsilanediol polymer 149718-92-3, Metablen S2001  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT 24936-68-3, Toughlon A 1900, uses 25037-45-0, Bisphenol A-carbonic acid copolymer  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT 9002-84-0, F201L  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

IT 115-86-6, Triphenyl phosphate 57583-54-7, \*\*\*Resorcinol\*\*\* bis(diphenyl phosphate)  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (fireproofing agent; fire-resistant polycarbonate-styrene polymer blend compns. for antifriction moldings)

L17 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:388371 CAPLUS  
 DN 129:54735  
 ED Entered STN: 25 Jun 1998  
 TI Preparation of copolyestercarbonates derived from hydroxyphenylindanols for fabrication of \*\*\*optical\*\*\* \*\*\*disks\*\*\*  
 IN Chatterjee, Gautam; Davis, Gary Charles  
 PA General Electric Co., USA  
 SO Eur. Pat. Appl., 7 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C08G063-64  
 ICS C08G063-695  
 CC 35-5 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 846711	A2	19980610	EP 1997-309850	19971208
	EP 846711	A3	20000830		
	EP 846711	B1	20040324		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 5859833	A	19990112	US 1997-927136	19970902
	JP 10231359	A2	19980902	JP 1997-331550	19971202
	CN 1210115	A	19990310	CN 1997-114154	19971209
PRAI	US 1996-32480P	P	19961209		
	US 1997-927136	A	19970902		

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 846711	ICM	C08G063-64
		ICS	C08G063-695
		IPCI	C08G0063-64 [ICM,6]; C08G0063-695 [ICS,6]
		ECLA	C08G063/64; G11B007/253
	US 5859833	IPCI	G11B0003-70 [ICM,6]; C08G0064-00 [ICS,6]
		NCL	369/288.000; 525/474.000; 528/010.000; 528/026.000; 528/029.000; 528/086.000; 528/176.000; 528/193.000; 528/201.000; 528/204.000; 528/206.000; 528/219.000
		ECLA	C08G063/64; G11B007/253
	JP 10231359	IPCI	C08G0064-16
	CN 1210115	IPCI	C08G0064-04 [ICM,6]; G11B0007-24 [ICS,6]
AB	Title copolycarbonates having low intrinsic birefringence is prep'd. from (a) a hydroxyphenylindanol, (b) a ***resorcinol*** carbonate, eugenolsiloxane or alkylenedioic acid, and (c) optionally, a bisphenol, preferably bisphenol A. Thus, 13.4 g 1,1,3-trimethyl-3-(4-hydroxyphenyl)-5-hydroxyindane, 2.9 g 1,12-dodecanedioic acid, 250 mg p-cumylphenol, 120 mL methylene chloride, 50 mL water, 0.5 mL 75% aq. Me tri-n-butylammonium chloride and 125 .mu.L triethylamine, were mixed with phosgene 5.3 g at pH 8.0 and 2.2 g at pH 10.5 to give a copolymer with MW 71,000 and Tg 139.degree., which was cast to form a film having low birefringence.		
ST	copolyestercarbonate prepn ***optical*** ***disk*** ; hydroxyphenylindanol ***resorcinol*** reaction copolyestercarbonate birefringence; alkylenedioic acid hydroxyphenylindanol reaction copolyestercarbonate; eugenolsiloxane hydroxyphenylindanol reaction polyester polycarbonate copolymer		
IT	Polymerization (interfacial; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for)		
IT	Polyesters, preparation Polyesters, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polycarbonate-; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for fabrication of ***optical*** ***disks*** )		
IT	Polycarbonates, preparation Polycarbonates, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyester-; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for fabrication of ***optical*** ***disks*** )		
IT	Redistribution reaction (polymn.; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for)		
IT	***Optical*** ***disks*** (prepn. of copolyestercarbonates derived from hydroxyphenylindanols for)		
IT	Polymerization (solid-state; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for)		
IT	Polymerization (transesterification; prepn. of copolyestercarbonates derived from hydroxyphenylindanols for)		
IT	208764-61-8P	208764-62-9P	208764-63-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (Prepn. of copolyestercarbonates derived from hydroxyphenylindanol for fabrication of \*\*\*optical\*\*\* \*\*\*disks\*\*\* )

L17 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:118621 CAPLUS

DN 128:141220

ED Entered STN: 27 Feb 1998

TI Method for preparing polycarbonate by solid-state polymerization

IN Varadarajan, Godavarthi Satyanarayana; Sivaram, Swaminathan; Idage, Bhaskar Bhairavnath; King, Joseph Anthony, Jr.

PA General Electric Co., USA

SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 653,166.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08G064-00

INCL 528196000

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 67

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5717056	A	19980210	US 1996-767740	19961217
	US 5710238	A	19980120	US 1996-653166	19960524
	SG 70588	A1	20000222	SG 1997-649	19970304
	EP 849305	A2	19980624	EP 1997-302927	19970429
	EP 849305	A3	19980722		
	R: BE, DE, ES, FR, GB, IT, NL				
	JP 10176047	A2	19980630	JP 1997-111675	19970430
	CN 1185453	A	19980624	CN 1997-111124	19970504
PRAI	US 1996-653166	A2	19960524		
	IN 1995-DE2463	A	19951229		
	US 1996-767740	A	19961217		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5717056	ICM	C08G064-00
	INCL	528196000
	IPCI	C08G0064-00 [ICM,6]
	NCL	528/196.000; 528/198.000
	ECLA	C08G064/14; C08G064/20; C08G064/30F; C08G064/42
US 5710238	IPCI	C08G0064-00
	NCL	528/196.000; 528/198.000; 528/201.000; 528/202.000
	ECLA	C08G064/14; C08G064/30F
SG 70588	IPCI	C08G0064-00 [ICM,7]
EP 849305	IPCI	C08G0064-20 [ICM,6]; C08G0064-40 [ICS,6]; C08G0064-30 [ICS,6]
	ECLA	C08G064/14; C08G064/20; C08G064/30F; C08G064/42
JP 10176047	IPCI	C08G0064-20 [ICM,6]; C08G0064-30 [ICS,6]
CN 1185453	IPCI	C08G0064-04 [ICM,6]; C08G0064-24 [ICS,6]; C08G0064-40 [ICS,6]

AB The method comprises an initial step of converting a precursor polycarbonate to an enhanced crystallinity precursor polycarbonate and a 2nd step of polymg. the enhanced crystallinity precursor polycarbonate in the solid state. Several options are employed, including modifying the precursor polycarbonate by contact with a dihydroxy compd. or diaryl carbonate, conversion of the precursor polycarbonate to the enhanced crystallinity polymer by contact with .gtoreq.1 compd. selected from alkali metal hydroxides, tetraalkylammonium hydroxides, tetraalkylammonium carboxylates, tetraalkylphosphonium hydroxides and tetraalkylphosphonium carboxylates, and conducting the solid-state polymn. in the presence of a catalytic amt. of .gtoreq.1 tetraalkylammonium or tetraalkylphosphonium carboxylate. The preferred tetraalkylammonium compds. are tetramethylammonium maleate and tetramethylammonium hydroxide. Polymn. may be conducted in the presence of a solvent resistance-imparting monomer such as hydroquinone or \*\*\*resorcinol\*\*\* or a branching agent such as 1,1,1-tris(4-hydroxyphenyl)ethane.

ST bisphenol A polycarbonate solid state polymn; tetraalkylammonium carboxylate solid state polymn catalyst; tetramethylammonium maleate solid state polymn catalyst; crystallinity enhancement polycarbonate solid state

polymn  
 IT Quaternary ammonium compounds, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (carboxylates; method for prepg. polycarbonate by solid-state polymn.)  
 IT Phosphonium compounds  
 RL: CAT (Catalyst use); USES (Uses)  
 (hydroxides or carboxylates; method for prepg. polycarbonate by  
 solid-state polymn.)  
 IT Quaternary ammonium compounds, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (hydroxides; method for prepg. polycarbonate by solid-state polymn.)  
 IT Recycling of plastics and rubbers  
 (method for prepg. polycarbonate by solid-state polymn.)  
 IT Alkali metal hydroxides  
 RL: CAT (Catalyst use); USES (Uses)  
 (method for prepg. polycarbonate by solid-state polymn.)  
 IT Polycarbonates, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (method for prepg. polycarbonate by solid-state polymn.)  
 IT \*\*\*Optical\*\*\* \*\*\*disks\*\*\*  
 (recycling; method for prepg. polycarbonate by solid-state polymn.)  
 IT Polymerization  
 (solid-state; method for prepg. polycarbonate by solid-state polymn.)  
 IT Polymerization catalysts  
 (transesterification; method for prepg. polycarbonate by solid-state  
 polymn.)  
 IT 75-59-2, Tetramethylammonium hydroxide 2052-49-5, Tetrabutylammonium  
 hydroxide 56504-85-9, uses 154695-25-7  
 RL: CAT (Catalyst use); USES (Uses)  
 (method for prepg. polycarbonate by solid-state polymn.)  
 IT 24936-68-3P, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate  
 copolymer 65503-32-4P, Bisphenol A-diphenyl carbonate-hydroquinone  
 copolymer 111707-77-8P, Bisphenol A-carbonic acid-ethylene glycol  
 copolymer 137593-28-3P, Bisphenol A-diphenyl carbonate-1,1,1-tris(4-  
 hydroxyphenyl)ethane copolymer 202122-48-3P, Bisphenol  
 A-catechol-carbonic acid copolymer  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (method for prepg. polycarbonate by solid-state polymn.)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

- RE  
 (1) Fukawa; US 5204377 1993 CAPLUS  
 (2) Fukuoka; US 4948871 1990 CAPLUS  
 (3) Sivaram; US 5266659 1993 CAPLUS

L17 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:416348 CAPLUS

DN 122:187376

ED Entered STN: 16 Mar 1995

TI Method of preparing novel derivatives of 3,3'-(4,6-dihydroxy-m-  
 phenylene)bis(3-phenylphthalide)

IN Aleksandrak, Krzysztof

PA Uniwersytet Mikolaja Kopernika, Pol.

SO Pol., 3 pp.

CODEN: POXXA7

DT Patent

LA Polish

IC ICM C07D307-885

CC 27-7 (Heterocyclic Compounds (One Hetero Atom))

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	PL 162564	B1	19931231	PL 1990-284232	19900309
PRAI	PL 1990-284232		19900309		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
PL 162564	ICM	C07D307-885
	IPCI	C07D0307-885 [ICM,5]

OS CASREACT 122:187376

GI

AB Title compds. I [R = Me, F, Cl, Br, H] are prep'd. by condensation of monosubstituted 2-benzoylbenzoic acids II with \*\*\*resorcinol\*\*\* (III) in conc'd. H<sub>2</sub>SO<sub>4</sub>. I are intermediates (no data) for derivs. of 9-acetoxy-10-phenylanthracene which have blue-violet fluorescence and are useful as active \*\*\*media\*\*\* in dye \*\*\*lasers\*\*\*. For example, a mixt. of 4.3 g II (R = Me), 1.0 g III, and 50 mL conc'd. H<sub>2</sub>SO<sub>4</sub> was stirred at room temp. for 5.5 h, then poured into water with intense stirring. The ppt. was filtered, dried, and crystd. from AcOH to give 4.20 g I (R = Me).

ST dihydroxyphenylenebisphenylphthalide prepn intermediate  
acetoxyphenylanthracene laser dye; phthalide dihydroxyphenylenebisphenyl prepn intermediate laser dye; cyclocondensation benzoylbenzoic acid  
\*\*\*resorcinol\*\*\*

IT Cyclocondensation reaction  
(cyclocondensation of benzoylbenzoic acid derivs. with  
\*\*\*resorcinol\*\*\* )

IT Dyes  
(laser, prepn. of (dihydroxyphenylene)bis(phenylphthalide) derivs. as laser dye intermediates)

IT 85-52-9, 2-Benzoylbenzoic acid 85-55-2, 2-(4-Methylbenzoyl)benzoic acid 85-56-3, 2-(4-Chlorobenzoyl)benzoic acid 108-46-3, 1,3-Benzenediol, reactions 2159-40-2, 2-(4-Bromobenzoyl)benzoic acid 7649-92-5, 2-(4-Fluorobenzoyl)benzoic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclocondensation of benzoylbenzoic acid derivs. with  
\*\*\*resorcinol\*\*\* )

IT 17803-81-5DP, 9-Acetoxy-10-phenylanthracene, derivs.  
RL: PNU (Preparation, unclassified); PREP (Preparation)  
(laser dyes; prepn. of (dihydroxyphenylene)bis(phenylphthalide) derivs. as laser dye intermediates)

IT 15791-04-5P, 3,3'-(4,6-Dihydroxy-m-phenylene)bis[3-phenylphthalide] 161557-27-3P, 3,3'-(4,6-Dihydroxy-m-phenylene)bis[3-(4-methylphenyl)phthalide] 161557-28-4P, 3,3'-(4,6-Dihydroxy-m-phenylene)bis[3-(4-fluorophenyl)phthalide] 161557-29-5P, 3,3'-(4,6-Dihydroxy-m-phenylene)bis[3-(4-chlorophenyl)phthalide] 161557-30-8P, 3,3'-(4,6-Dihydroxy-m-phenylene)bis[3-(4-bromophenyl)phthalide]  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of (dihydroxyphenylene)bis(phenylphthalide) derivs. as laser dye intermediates)

L17 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1919:16155 CAPLUS

DN 13:16155

OREF 13:3250c-g

ED Entered STN: 16 Dec 2001

TI The baking powder problem

AU Pritzker, J.

CS Basel

SO Schweizerische Apotheker-Zeitung (1919), 57, 363-6,380-5  
CODEN: SAZTA8; ISSN: 0036-7508

DT Journal

LA Unavailable

CC 12 (Foods)

AB Tillmans and Hueblin (cf. C. A. 12, 2630) detect tartaric acid as follows: Heat a mixt. of 0.2-0.3 g. of baking powder (B), a little pure, white \*\*\*resorcinol\*\*\*. and 5 to 10 cc. H<sub>2</sub>SO<sub>4</sub> (d. 1.84) in a test-tube over a small flame to 100-120-.degree.. An intensely red-violet color indicates tartaric acid. The test detects 2 mg. of the acid; citric and mane acids do not give the test. Starch must be removed previously. For the quant. detn. of tartaric acid, P. proceeds as follows: Stir 1 to 2 g. of B with 50.0 cc. H<sub>2</sub>O, boil the alk. soln. for 5 min., filter while hot into a 100-cc. flask, cool, fill up to 100 cc. Treat 50 cc. in a beaker with excess of glacial AcOH, add 0.5 cc. of a 20% AcOK soln. and dissolve therein 5 g. KCl with stirring. Rub the inner wall of the beaker with a glass rod, add race. of 96% EtOH, allow to stand overnight, filter with

suction, wash out 5 times with 5 cc. of 45% EtOH, return the filter with ppt. to the beaker, add 50.0 cc. H<sub>2</sub>O, boil and titrate with 0.1 N NaOH, and phenolphthalein. One cc. 0.1 N NaOH indicates 0.01892 g. cream of tartar. Analyses of 10 com. samples 13.9 to 22.2 g. wt. per package, showed from 20.7 to 47.1% CaCO<sub>3</sub> used as filler in 7 samples, and undue variations in the excess of NaHCO<sub>3</sub>. The following recommendations are made: A package for use with 500 g. of flour should liberate 1000 cc. (about 2 g.) of CO<sub>2</sub>. This is done by a mixt. of 6 g. (or at least 5 g.) of cream of tartar and 4 g. of NaHCO<sub>3</sub>. Excess of NaHCO<sub>3</sub>, may be 1 g., but should not exceed 3 g. per package, B contg. NH<sub>4</sub> salts should be so declared. NaHSO<sub>4</sub> being harmful, should be barred from B. The use of Al salts in B is unlawful in Switzerland. Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub> has been recommended; \*\*\*medicinal\*\*\* \*\*\*information\*\*\* on this salt is desirable. Flour, starch, etc. may be used as diluents; but CaCO<sub>3</sub> (sanctioned in Germany) should not exceed 20%. In judging B, dough and baking tests, observing taste and rising power, should be included. B should be free from harmful or useless ingredients.

IT Baking powders  
 (analysis of)  
 IT 87-69-4, Tartaric acid  
 (detection and detn. in baking powder)

=> d his

(FILE 'HOME' ENTERED AT 11:23:01 ON 30 JAN 2006)

FILE 'CAPLUS' ENTERED AT 11:23:08 ON 30 JAN 2006

L1 28980 S RESORCINOL  
 L2 1449 S L1 AND (UV OR ULTRAVIOLET)  
 L3 200 S L1 AND (MASK? OR PHOTOMASK?)  
 L4 5 S L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O  
 L5 136 S L2 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O  
 L6 136 S L5 NOT L4  
 L7 5 S L6 AND (REFRACTIVE OR REFRACTION OR FRIES)  
 L8 117 S L2 AND POLYESTER  
 L9 0 S L8 AND (MASK? OR PHOTOMASK?)  
 L10 2215 S L1 AND POLYESTER  
 L11 1 S L10 AND (MASK? OR PHOTOMASK?)  
 L12 117 S L10 AND (UV OR ULTRAVIOLET)  
 L13 5 S L12 AND (PATTERN? OR REFRACTIVE OR REFRACTION OR FRIES)  
 L14 0 S SLLX  
 L15 15 S L1 AND (GRATING OR HOLOGRA?)  
 L16 3 S L1 AND (WAVEGUIDE)  
 L17 12 S L1 AND ((OPTICAL OR LASER OR INFORMATION) (5A) (MED? OR DISK OR

=> s (photomask1 or mask1) and (fries(3a)rearrang?)

1) IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.  
 For a list of commands available to you in the current file, enter  
 "HELP COMMANDS" at an arrow prompt (=>).

=> s (photomask or mask) and (fries(3a)rearrang?)

8024 PHOTOMASK  
 11711 PHOTOMASKS  
 14742 PHOTOMASK  
 (PHOTOMASK OR PHOTOMASKS)  
 67468 MASK  
 28022 MASKS  
 78309 MASK  
 (MASK OR MASKS)  
 2841 FRIES  
 154673 REARRANG?  
 1742 FRIES(3A)REARRANG?  
 L18 1 (PHOTOMASK OR MASK) AND (FRIES(3A)REARRANG?)

=> d all

L18 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1992:601920 CAPLUS  
 DN 117:201920  
 ED Entered STN: 15 Nov 1992

TI Water-soluble photosensitive compounds, photoresistant compositions  
 containing them, and patterning of such photoresists  
 IN Hayashi, Nobuaki; Ito, Masahito; Morishita, Hajime; Nonogaki, Saburo;  
 Odaka, Yoshiyuki; Miura, Seiji; Nishizawa, Shoko  
 PA Hitachi, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03F007-038  
 ICS G03F007-008; H01J009-227; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04026849	A2	19920130	JP 1990-131283	19900523
PRAI	JP 1990-131283		19900523		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04026849	ICM	G03F007-038
	ICS	G03F007-008; H01J009-227; H01L021-027
	IPCI	G03F0007-038 [ICM,5]; G03F0007-008 [ICS,5]; H01J0009-227 [ICS,5]; H01L0021-027 [ICS,5]

GI

/ Structure 4 in file .gra /

AB The title water-sol. photosensitive compds. (I) and (II) [Z = H, OH; M =  
 Na, K, NH4] are obtained by condensing an acetophenone  
 structure-possessing polymer with an arom. aldehyde possessing an azide  
 group and an aliph. aldehyde (e.g. MeCHO, crotonaldehyde). The title  
 photoresist compn. comprises the above water-sol. photosensitive compd.  
 and a water-sol. polymer which reacts with the former to show reciprocity  
 low failure. The title photoresist compn. coated on a substrate is  
 patternwise exposed in the presence of O, and developed to produce a  
 pattern in which the exposed areas produce a pattern smaller in area than  
 the area of the openings in the \*\*\*photomask\*\*\*  
 ST photoresist compn high sensitivity; black matrix CRT manuf; acetophenone  
 polymer condensation product  
 IT Cathode-ray tubes  
 (color, black matrix, manuf. of, photoresist compn. for)  
 IT Resists  
 (photo-, contg. acetophenone polymer aldehyde condensation product)  
 IT 24979-70-2D, p-Hydroxystyrene homopolymer, acetylated, \*\*\*Fries\*\*\*  
 \*\*\*rearranged\*\*\*, condensation product with 4-azidobenzaldehyde-12-  
 sulfonic acid salt and acetaldehyde 25231-54-3, Acrylamide-diacetone  
 acrylamide copolymer 25300-64-5D, Maleic acid-styrene copolymer,  
 acetylation product, condensation product with sodium potassium or  
 ammonium 4-azidobenzaldehyde-2-sulfonate and acetaldehyde or croton  
 aldehyde 55305-94-7D, 4-Azidobenzaldehyde-2-sulfonic acid sodium salt,  
 condensation product with acetylated styrene polymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoresist compn. contg.)

=> s (photomask or mask) and (fries or rearrang?)  
 8024 PHOTOMASK  
 11711 PHOTOMASKS  
 14742 PHOTOMASK  
 (PHOTOMASK OR PHOTOMASKS)  
 67468 MASK  
 28022 MASKS  
 78309 MASK  
 (MASK OR MASKS)  
 2841 FRIES  
 154673 REARRANG?  
 L19 56 (PHOTOMASK OR MASK) AND (FRIES OR REARRANG?)

=> d all 1-56

L19 ANSWER 1 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2005:679964 CAPLUS  
ED Entered STN: 01 Aug 2005  
TI Print control method and apparatus of inkjet printer  
IN Kim, Seong Won  
PA Lg Electronics Inc., S. Korea  
SO Repub. Korea, No pp. given  
CODEN: KRXXFC  
DT Patent  
LA Korean  
IC ICM B41J002-01  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 218478	B1	19990901	KR 1997-37927	19970808
PRAI	KR 1997-37927		19970808		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 218478	ICM	B41J002-01
	IPCI	B41J0002-01 [ICM,7]

AB PURPOSE: A method and apparatus for controlling printing of an ink jet printer is provided to prevent ink from being spread, thereby enabling printing of high picture quality. CONSTITUTION: A method for controlling printing of an ink jet printer includes the steps of dividing successive dots into a plurality of draft pictures and \*\*\*rearranging\*\*\* them if dots are successively formed in an original picture to be printed, and sequentially printing the respective draft pictures. An apparatus for controlling printing of an ink jet printer includes a DRAM(1) for storing data of an original picture to be printed and picture data divided at a lower density, a draft processor(2) for drafting the original picture from the DRAM to divide and output a fixture having a lower density, a \*\*\*mask\*\*\* pattern processor(3) for \*\*\*mask\*\*\* processing the original picture from the DRAM to divide and output a picture having a lower density, a dot counter(4) for counting the number of dots of the original picture from the DRAM, and a DMA for storing the picture data processed by the draft processor and the \*\*\*mask\*\*\* pattern processor in the DRAM and storing the number of the dots counted by the dot counter.

L19 ANSWER 2 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2004:1095751 CAPLUS  
ED Entered STN: 21 Dec 2004  
TI Method for manufacturing chip package of chip scale semiconductor  
IN Choi, Gwang Seong  
PA Hyundai Micro Electronics Co., Ltd., S. Korea  
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given  
CODEN: KRXXA7  
DT Patent  
LA Korean  
IC ICM H01L023-48  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2000066832	A	20001115	KR 1999-14211	19990421
PRAI	KR 1999-14211		19990421		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 2000066832	ICM	H01L023-48
	IPCI	H01L0023-48 [ICM,7]

AB PURPOSE: A method for manufacturing a chip package of a chip scale semiconductor is provided to improve reliability of a semiconductor package by filling chrome into a via hole. CONSTITUTION: A method for manufacturing a chip package of a chip scale semiconductor comprises the steps of: forming a protection layer on a semiconductor chip; forming a via hole; forming a first metal layer; adhering an insulating tape, a second metal layer, a conductive pattern for \*\*\*rearranging\*\*\* a pad of the first metal layer, a conductive pattern for adhering the first metal layer, and a pad \*\*\*rearrangement\*\*\* tape on the semiconductor chip; forming a conductive layer; forming a solder \*\*\*mask\*\*\* (38);



exposing a predetermined portion of the conductive pattern for  
\*\*\*rearranging\*\*\* the pad; and adhering a solder ball(39) on the exposed  
conductive pattern.

L19 ANSWER 3 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2004:875158 CAPLUS  
DN 142:331590  
ED Entered STN: 22 Oct 2004  
TI Assembly of the phagocyte NADPH oxidase  
AU Nauseef, William M.  
CS Inflammation Program and Department of Medicine, Roy J. and Lucille A.  
Carver College of Medicine, University of Iowa, Coralville, IA 52241, USA  
SO Histochemistry and Cell Biology (2004), 122(4), 277-291  
CODEN: HCBIFP; ISSN: 0948-6143  
PB Springer GmbH  
DT Journal; General Review  
LA English  
CC 7-0 (Enzymes)  
AB A review. Stimulated phagocytes undergo a burst in respiration whereby  
mol. oxygen is converted to superoxide anion through the action of an  
NADPH-dependent oxidase. The multicomponent phagocyte oxidase is  
unassembled and inactive in resting cells but assembles at the plasma or  
phagosomal membrane upon phagocyte activation. Oxidase components include  
flavocytochrome b558, an integral membrane heterodimer comprised of  
gp91phox and p22phox, and three cytosolic proteins, p47phox, p67phox, and  
Rac1 or Rac2, depending on the species and phagocytic cell. In a sense,  
the phagocyte oxidase is spatially regulated, with crit. elements  
segregated in the membrane and cytosol but ready to undergo nearly  
immediate assembly and activation in response to stimulation. To achieve  
such spatial regulation, the individual components in the resting  
phagocyte adopt conformations that \*\*\*mask\*\*\* potentially interactive  
structural domains that might mediate productive intermol. assocns. and  
oxidase assembly. In response to stimulation, post-translational  
modifications of the oxidase components release these constraints and  
thereby render potential interfaces accessible and interactive, resulting  
in translocation of the cytosolic elements to the membrane where the  
functional oxidase is assembled and active. This review summarizes data  
on the structural features of the phagocyte oxidase components and on the  
agonist-dependent conformational \*\*\*rearrangements\*\*\* that contribute  
to oxidase assembly and activation.  
ST review phagocyte NADPH oxidase component  
IT Phagocyte  
(assembly and interactions of components of phagocyte NADPH oxidase)  
IT 9032-22-8, NADPH oxidase  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(assembly and interactions of components of phagocyte NADPH oxidase)  
RE.CNT 181 THERE ARE 181 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L19 ANSWER 4 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:629124 CAPLUS  
 ED Entered STN: 05 Aug 2004  
 TI Picture method of representing and picture display unit [Machine Translation].  
 IN Ozono, Jiro; Tsuji, Masayuki  
 PA Toshiba Engineering Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G09G003-20  
 ICS G02F001-13; G02F001-1335; G02F001-1347; G09D001-00; G09F009-46; G09F019-14; G09G003-36

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004219677	A2	20040805	JP 2003-6525	20030115
PRAI	JP 2003-6525		20030115		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004219677	ICM	G09G003-20
	ICS	G02F001-13; G02F001-1335; G02F001-1347; G09D001-00; G09F009-46; G09F019-14; G09G003-36
	IPCI	G09G0003-20 [ICM,7]; G02F0001-13 [ICS,7]; G02F0001-1335 [ICS,7]; G02F0001-1347 [ICS,7]; G09D0001-00 [ICS,7]; G09F0009-46 [ICS,7]; G09F0019-14 [ICS,7]; G09G0003-36 [ICS,7]
	FTERM	2H088/EA03; 2H088/EA12; 2H088/EA14; 2H088/MA01; 2H088/MA20; 2H089/HA31; 2H089/QA16; 2H091/FA34X; 2H091/LA16; 2H091/LA30; 5C006/AA02; 5C006/AF11; 5C006/AF27; 5C006/AF38; 5C006/AF51; 5C006/BB08; 5C006/BF24; 5C006/BF29; 5C006/EC02; 5C006/EC08; 5C006/FA05; 5C080/AA10; 5C080/BB08; 5C080/CC08; 5C080/DD01; 5C080/DD13; 5C080/DD21; 5C080/EE01; 5C080/EE18; 5C080/EE26; 5C080/FF13; 5C080/GG02; 5C080/GG05; 5C080/GG09; 5C080/GG12; 5C080/JJ01; 5C080/JJ02; 5C080/JJ06; 5C080/JJ07; 5C080/KK28; 5C080/KK37; 5C080/KK39; 5C094/AA56; 5C094/BA43; 5C094/DA03; 5C094/ED15; 5C094/FA02

AB [Machine Translation of Descriptors]. It is not necessary to operate plurally, offer the picture method of representing and the display to which furthermore the screen information is \*\*\*rearranged\*\*\* and is indicated. Through the translucent 1st display part, after that specified interval separating, being the method of representing which indicates the picture which is indicated in the 2nd display part which is provided, hiding the portion of the picture which is indicated in the aforementioned 2nd display part vis-a-vis the apparent person who possesses the \*\*\*mask\*\*\* section which cuts off light in the aforementioned 1st display part, sees from specified angle before the aforementioned 1st display part, by the aforementioned \*\*\*mask\*\*\* section the picture method of representing which it indicates.

L19 ANSWER 5 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:344639 CAPLUS

DN 142:14273  
 ED Entered STN: 28 Apr 2004  
 TI Molecular rectification and conductance switching in carbon-based  
 molecular junctions by structural \*\*\*rearrangement\*\*\* accompanying  
 electron injection. [Erratum to document cited in CA139:171867]  
 AU McCreery, Richard; Dieringer, Jon; Solak, Ali Osman; Snyder, Brian; Nowak,  
 Aletha M.; McGovern, William R.; DuVall, Stacy  
 CS Department of Chemistry, The Ohio State University, Columbus, OH, 43210,  
 USA  
 SO Journal of the American Chemical Society (2004), 126(19), 6200  
 CODEN: JACSAT; ISSN: 0002-7863  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 76-3 (Electric Phenomena)  
 Section cross-reference(s): 66  
 AB Residual gases in the electron beam evaporator caused titanium oxide to  
 form during Ti deposition. A lower back pressure and faster Ti deposition  
 rate (4 .times. 10-7 Torr and 0.1 nm/s) resulted in a significant change  
 in the appearance of Figure 3; the cor. figure is given. XPS depth  
 profiling showed the formation of Ti(II) and Ti(III) oxides using the  
 previous conditions. These results imply that both a Ti/TiOx layer and  
 the nitroazobenzene (NAB)/NAB- layer det. the electronic behavior of the  
 junction.  
 ST erratum nitroazobenzene mol junction pyrolyzed photoresist titanium  
 contact rectification  
 IT Electric capacitance  
 Electric current-potential relationship  
 Electric rectification  
 Electric resistance  
 Electric switching  
 Electron transfer  
 Hysteresis  
 Raman spectra  
 Thickness  
 Tunneling current  
 (of nitroazobenzene mol. junctions (Erratum))  
 IT Self-assembled monolayers  
 Surface roughness  
 Thermal decomposition  
 (rectification and switching in nitroazobenzene mol. junctions between  
 pyrolyzed photoresist and titanium top contact with gold layer on  
 silicon (Erratum))  
 IT Electric contacts  
 (titanium; rectification and switching in nitroazobenzene mol.  
 junctions between pyrolyzed photoresist and titanium top contact with  
 gold layer on silicon (Erratum))  
 IT 9003-53-6, Polystyrene  
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical  
 process); PYP (Physical process); PROC (Process); USES (Uses)  
 ( \*\*\*mask\*\*\* ; rectification and switching in nitroazobenzene mol.  
 junctions between pyrolyzed photoresist and titanium top contact with  
 gold layer on silicon (Erratum))  
 IT 195460-20-9, AZ P4330RS  
 RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical,  
 engineering or chemical process); PROC (Process); USES (Uses)  
 (photoresist; rectification and switching in nitroazobenzene mol.  
 junctions between pyrolyzed photoresist and titanium top contact with  
 gold layer on silicon (Erratum))  
 IT 37703-34-7, Nitroazobenzene  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); PRP (Properties); PYP (Physical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (rectification and switching in nitroazobenzene mol. junctions between  
 pyrolyzed photoresist and titanium top contact with gold layer on  
 silicon (Erratum))  
 IT 1344-54-3, Titanium oxide (Ti2O3) 13463-67-7, Titanium oxide (TiO2),  
 formation (nonpreparative)  
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)  
 (rectification and switching in nitroazobenzene mol. junctions between  
 pyrolyzed photoresist and titanium top contact with gold layer on  
 silicon (Erratum))

IT 7440-06-4, Platinum, processes 7440-32-6, Titanium, processes  
 7440-57-5, Gold, processes  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon (Erratum))

IT 7440-21-3, Silicon, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon (Erratum))

L19 ANSWER 6 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:287506 CAPLUS  
 ED Entered STN: 08 Apr 2004  
 TI \*\*\*Mask\*\*\* data compilation method, \*\*\*mask\*\*\* production method, production method and semiconductor device of semiconductor device [Machine Translation].  
 IN Kurashima, Kenji  
 PA Seiko Epson Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H01L021-82  
 ICS G06F017-50; H01L021-3205; H01L021-822; H01L027-04

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004111530	A2	20040408	JP 2002-270155	20020917
PRAI JP 2002-270155		20020917		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004111530	ICM	H01L021-82
	ICS	G06F017-50; H01L021-3205; H01L021-822; H01L027-04
	IPCI	H01L0021-82 [ICM,7]; G06F0017-50 [ICS,7]; H01L0021-3205 [ICS,7]; H01L0021-822 [ICS,7]; H01L0027-04 [ICS,7]
	FTERM	5B046/AA08; 5B046/BA04; 5B046/JA01; 5F033/UU01; 5F033/UU03; 5F033/XX25; 5F038/BH19; 5F038/CA17; 5F038/CD05; 5F038/CD09; 5F038/CD13; 5F038/EZ09; 5F038/EZ10; 5F064/AA03; 5F064/AA04; 5F064/DD26; 5F064/EE43; 5F064/EE45; 5F064/EE46; 5F064/EE47; 5F064/HH06; 5F064/HH09; 5F064/HH11

AB [Machine Translation of Descriptors]. Common running error of plural signal wiring is detected automatically, the \*\*\*mask\*\*\* data compilation method of being possible to draw up the \*\*\*mask\*\*\* data by correcting arrangement or wiring in error place automatically is offered. In order to solve the topic above, as for the \*\*\*mask\*\*\* data compilation method of relating to this invention, the step (d) which arranges repetition wiring the step (c) which is converted to the type which can be utilized the information which is outputted in step (b) and the step (b) which output the information regarding the common running error of signal wiring the step (a) which arranges signal wiring inside the layout territory making use of the 1st program and, making use of the 2nd program at the time of 1st programming and, making use of the information which 1st it is programmed and is converted and and, making use of the 1st program repetition wiring In order to detour, it possesses with the step (e) which \*\*\*rearranges\*\*\* signal wiring.

L19 ANSWER 7 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:156938 CAPLUS  
 DN 140:339473  
 ED Entered STN: 26 Feb 2004  
 TI Thermodynamic and kinetic data for adduct formation, cis-trans isomerization and redox reactions of ML4 complexes: A case study with rhodium- and iridium-tropp complexes in d8, d9 and d10 valence electron configurations (tropp = dibenzotropyliene phosphanes)  
 AU Breher, Frank; Rueegger, Heinz; Mlakar, Marina; Rudolph, Manfred; Deblon, Stephan; Schoenberg, Hartmut; Boulmaaz, Souad; Thomaier, Joerg;

Gruetzmacher, Hansjoerg  
 CS Department of Chemistry and Applied Biology (D-CHAB), ETH Hoenggerberg,  
 Zurich, 8093, Switz.  
 SO Chemistry--A European Journal (2004), 10(3), 641-653  
 CODEN: CEUJED; ISSN: 0947-6539  
 PB Wiley-VCH Verlag GmbH & Co. KGaA  
 DT Journal  
 LA English  
 CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22, 27, 72, 75  
 AB The formation of adducts of the square-planar 16-electron complexes  
 trans-[M(troppPh)2]+ and cis-[M(troppPh)2]+ (M = Rh, Ir; troppPh =  
 5-(diphenylphosphino)-5H-dibenzo[a,d]cycloheptene) with acetonitrile and  
 Cl-, and the redox chem. of these complexes was investigated by various  
 phys. methods (NMR and UV-visible spectroscopy, square-wave voltammetry),  
 in order to obtain some fundamental thermodyn. and kinetic data for these  
 systems. A trans/cis isomerization cannot be detected for [M(troppPh)2]+  
 in non-coordinating solvents. However, both isomers are connected through  
 equil. of the type trans-[M(troppPh)2]+ + L.dblarw.[ML(troppPh)2]n.dblarw.  
 cis-[M(troppPh)2]+ + L, involving five-coordinate intermediates  
 [ML(troppPh)2]n (L = MeCN, n = 1; L = Cl-, n = 0). Values of dissocn. or  
 formation equil. const. Kd (Kf) and dissocn. or formation rate const. kd  
 (kf) were obtained. The formation reactions are fast, esp. with the  
 trans-isomers (kf > 1 .times. 105 M-1 s-1). The reaction with the  
 sterically more hindered cis-isomers is at least one order of magnitude  
 slower. The stability of the five-coordinate complexes [ML(troppPh)2]n  
 increases with Ir > Rh and Cl- > MeCN. The dissocn. reaction has a  
 pronounced influence on the square-wave (SW) voltammograms of  
 trans/cis-[Ir(troppPh)2]+. With the help of the thermodyn. and kinetic  
 data independently detd. by other phys. means, these reactions could be  
 simulated and allowed the setting up of a reaction sequence. Examm. of  
 the data obtained showed that the trans/cis isomerization is a process  
 with a low activation barrier for the four-coordinate 17-electron  
 complexes [M(troppPh)2]0 and esp. that a disproportionation reaction  
 2(trans/cis-[M(troppPh)2]0).fwdarw.[M(troppPh)2]+ + [M(troppPh)2]- may be  
 sufficiently fast to \*\*\*mask\*\*\* the true reactivity of the  
 paramagnetic species, which are probably less reactive than their  
 diamagnetic equil. partners.  
 ST rhodium iridium tropyliidene phosphine bidentate ligand cis trans  
 isomerization; cis trans isomerization equil kinetics tropyliidene  
 phosphine complex; square wave voltammetry rhodium iridium tropyliidene  
 phosphine bidentate complex; tropyliidene phosphine bidentate cis trans  
 iridium rhodium complex; crystal structure rhodium iridium  
 tropyliidenylphosphine pentacoordinate complex; mol structure rhodium  
 iridium tropyliidenylphosphine pentacoordinate complex  
 IT Transition metal complexes  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant  
 or reagent)  
 (alkene complexes, tropyliidenylphosphine; thermodyn. and kinetics of  
 cis-trans-isomerization of rhodium and iridium tropyliidenylphosphine  
 bidentate complexes)  
 IT Isomerization  
 (cis-trans; thermodyn. and kinetics of cis-trans-isomerization of  
 rhodium and iridium tropyliidenylphosphine bidentate complexes)  
 IT Disproportionation  
 (electrochem. redox reactions of rhodium and iridium  
 tropyliidenylphosphine bidentate complexes)  
 IT Coordination number  
 (five; prepn., isomerization kinetics and thermodyn. of pentacoordinate  
 rhodium and iridium tropyliidenylphosphine bidentate complexes)  
 IT Activation energy  
 Dissociation constant  
 Formation constant  
 (formation and isomerization kinetics and thermodyn. of pentacoordinate  
 rhodium and iridium tropyliidenylphosphine bidentate complexes)  
 IT Thermodynamics  
 (of complexation; formation and dissocn. consts. of isomeric rhodium  
 and iridium tropyliidenylphosphine bidentate complexes)  
 IT Crystal structure  
 Molecular structure  
 (of rhodium and iridium tropyliidenylphosphine pentacoordinate

complexes)

IT Group VIII element complexes  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (rhodium, iridium; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT Redox reaction  
 Square wave voltammetry  
 (square-wave voltammetric redox reactions of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT Complexation  
 (thermodyn.; formation and dissocn. consts. of isomeric rhodium and iridium tropyridenylphosphine bidentate complexes)

IT Alkenes, reactions  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (transition metal complexes, tropyridenylphosphine; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT 220083-45-4 679433-18-2  
 RL: PRP (Properties)  
 (crystal structure; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT 210969-25-8  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
 (fluxional \*\*\*rearrangement\*\*\*; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT 220083-48-7 400649-56-1  
 RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)  
 (redox potential, cis-trans isomerization; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT 220083-46-5 220197-87-5 400649-58-3  
 RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)  
 (redox potential; thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

IT 210969-27-0 400608-26-6 679843-90-4  
 RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)  
 (thermodyn. and kinetics of cis-trans-isomerization of rhodium and iridium tropyridenylphosphine bidentate complexes)

RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 8 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:604452 CAPLUS

DN 139:171867

ED Entered STN: 07 Aug 2003

TI Molecular Rectification and Conductance Switching in Carbon-Based  
Molecular Junctions by Structural \*\*\*Rearrangement\*\*\* Accompanying  
Electron Injection

AU McCreery, Richard; Dieringer, Jon; Solak, Ali Osman; Snyder, Brian; Nowak,  
Aletha M.; McGovern, William R.; DuVall, Stacy

CS Department of Chemistry, The Ohio State University, Columbus, OH, 43210,  
USA

SO Journal of the American Chemical Society (2003), 125(35), 10748-10758  
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 66

AB Mol. junctions were fabricated consisting of a 3.7 nm thick layer of  
nitroazobenzene (NAB) mols. between a pyrolyzed photoresist substrate  
(PPF) and a Ti top contact which was protected from oxidn. by a layer of  
Au. Raman spectroscopy, XPS, and AFM revealed that the NAB layer was 2-3  
mols. thick and was bonded to the two conducting contacts by C-C and N-Ti  
covalent bonds. The current/voltage behavior of the PPF/NAB(3.7)/Ti  
junctions showed strong and reproducible rectification, with the current  
at +2 V exceeding that at -2 V by a factor of 600. The obsd. c.d. at +3 V  
was 0.71 A/cm<sup>2</sup>, or .apprx.105 e-/s/mol. The i/V response was strongly  
dependent on temp. and scan rate, with the rectification ratio decreasing  
for lower temp. and faster scans. Junction cond. increased with time over  
several seconds at room temp. in response to pos. voltage pulses, with the  
rate of increase larger for more pos. potentials. Voltage pulses to pos.  
potentials and back to zero volts revealed that electrons are injected  
from the Ti to the NAB, to the extent of .apprx.0.1-1 e-/mol. for a +3 V  
pulse. These electrons cause an activated transition of the NAB into a  
more conductive quinoid state, which in turn causes an increase in cond.  
The transition to the quinoid state involves nuclear \*\*\*rearrangement\*\*\*

which occurs on a sub-millisecond to several 2nd time scale, depending on the voltage applied. The quinoid state is stable as long as the applied elec. field is present, but reverts back to NAB within several minutes after the field is relaxed. The results are interpreted in terms of a thermally activated, potential dependent electron transfer into the 3.7 nm NAB layer, which brings about a cond. increase of several orders of magnitude.

- ST nitroazobenzene mol junction pyrolyzed photoresist titanium contact rectification
- IT Electric capacitance  
Electric current-potential relationship  
Electric rectification  
Electric resistance  
Electric switching  
Electron transfer  
Hysteresis  
Raman spectra  
Thickness  
Tunneling current  
(of nitroazobenzene mol. junctions)
- IT Self-assembled monolayers  
Surface roughness  
Thermal decomposition  
(rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT Electric contacts  
(titanium; rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT 9003-53-6, Polystyrene  
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)  
( \*\*\*mask\*\*\* ; rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT 195460-20-9, AZ P4330RS  
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(photoresist; rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT 37703-34-7, Nitroazobenzene  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT 7440-06-4, Platinum, processes 7440-32-6, Titanium, processes  
7440-57-5, Gold, processes  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)
- IT 7440-21-3, Silicon, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(rectification and switching in nitroazobenzene mol. junctions between pyrolyzed photoresist and titanium top contact with gold layer on silicon)

RE.CNT 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 9 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:377893 CAPLUS

DN 138:393663

ED Entered STN: 18 May 2003

TI Lateral epitaxial overgrowth of InAs on (100) GaAs substrates

AU Suryanarayanan, Ganesan; Khandekar, Anish A.; Hawkins, Brian E.; Kuech, Thomas F.; Babcock, Susan E.

CS Materials Science Program, University of Wisconsin - Madison, Madison, WI,

53706, USA

SO Materials Research Society Symposium Proceedings (2003), 744 (Progress in Semiconductors, II--Electronic and Optoelectronic Applications), 9-14  
CODEN: MRSPDH; ISSN: 0272-9172

PB Materials Research Society

DT Journal

LA English

CC 76-3 (Electric Phenomena)

AB The microstructure of epitaxial InAs thin films grown by MOCVD on \*\*\*mask\*\*\* -patterned "LEO" (lateral epitaxial overgrowth) GaAs and on unpatterned GaAs substrates was studied using double-crystal x-ray diffraction, SEM, and cross-sectional TEM. This paper describes the improvement in crystal quality (factor of 20 redn. in x-ray rocking curve width), the order of magnitude redn. in dislocation d., and the \*\*\*rearrangement\*\*\* of the remaining extended defects that were obsd. in the LEO material when compared to the film grown on the unpatterned wafer.

ST indium arsenide lateral epitaxial overgrowth gallium arsenide substrate

IT Crystal defects  
Crystallinity  
Epitaxy  
Semiconductor films  
Semiconductor heterojunctions  
(lateral epitaxial overgrowth of InAs on GaAs(100) substrates)

IT Vapor deposition process  
(metalorg.; lateral epitaxial overgrowth of InAs on GaAs(100) substrates)

IT 3385-78-2, Trimethyl indium 7784-42-1, Arsine  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(lateral epitaxial overgrowth of InAs on GaAs(100) substrates)

IT 1303-11-3, Indium arsenide, properties  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(lateral epitaxial overgrowth of InAs on GaAs(100) substrates)

IT 1303-00-0, Gallium arsenide, processes  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(lateral epitaxial overgrowth of InAs on GaAs(100) substrates)

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L19 ANSWER 10 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:294063 CAPLUS

DN 139:113188

ED Entered STN: 16 Apr 2003

TI Ribosomal protein S15 represses its own translation via adaptation of an rRNA-like fold within its mRNA

AU Serganov, Alexander; Polonskaia, Ann; Ehresmann, Bernard; Ehresmann, Chantal; Patel, Dinshaw J.

CS Cellular Biochemistry and Biophysics Program, Memorial Sloan-Kettering Cancer Center, New York, NY, 10021, USA

SO EMBO Journal (2003), 22(8), 1898-1908  
CODEN: EMJODG; ISSN: 0261-4189

PB Oxford University Press

DT Journal

LA English

CC 6-1 (General Biochemistry)  
Section cross-reference(s): 10

AB The 16S rRNA-binding ribosomal protein S15 is a key component in the assembly of the small ribosomal subunit in bacteria. We have shown that S15 from the extreme thermophile Thermus thermophilus represses the translation of its own mRNA in vitro, by interacting with the leader segment of its mRNA. The S15 mRNA-binding site was characterized by footprinting expts., deletion anal. and site-directed mutagenesis. S15 binding triggers a conformational \*\*\*rearrangement\*\*\* of its mRNA into

a fold that mimics the conserved three-way junction of the S15 rRNA-binding site. This conformational change \*\*\*masks\*\*\* the ribosome entry site, as demonstrated by direct competition between the ribosomal subunit and S15 for mRNA binding. A comparison of the T.thermophilus and Escherichia coli regulation systems reveals that the two regulatory mRNA targets do not share any similarity and that the mechanisms of translational inhibition are different. Our results highlight an astonishing plasticity of mRNA in its ability to adapt to evolutionary constraints, that contrasts with the extreme conservation of the rRNA-binding site.

ST ribosomal protein S15 mRNA recognition translation repression Thermus  
IT Conformation  
    (RNA; rRNA-like fold in mRNA by binding of ribosomal protein S15  
    resulted in repression of its own translation)  
IT Ribosomal proteins  
    RL: BSU (Biological study, unclassified); BIOL (Biological study)  
    (S15; ribosomal protein S15 represses its own translation via  
    adaptation of rRNA-like fold within mRNA)  
IT mRNA  
    RL: BSU (Biological study, unclassified); BIOL (Biological study)  
    (for ribosomal protein S15; ribosomal protein S15 represses its own  
    translation via adaptation of rRNA-like fold within mRNA)  
IT Molecular recognition  
    (of rRNA and mRNA by ribosomal protein S15; rRNA-like fold in mRNA by  
    binding of ribosomal protein S15 resulted in repression of its own  
    translation)  
IT rRNA  
    RL: BSU (Biological study, unclassified); BIOL (Biological study)  
    (recognition by ribosomal protein S15 of conformation of; rRNA-like  
    fold in mRNA by binding of ribosomal protein S15 resulted in its own  
    translation)  
IT Thermus thermophilus  
    (ribosomal protein S15 from; ribosomal protein S15 represses its own  
    translation via adaptation of rRNA-like fold within mRNA)  
IT Translation, genetic  
    (ribosomal protein S15 represses its own translation via adaptation of  
    rRNA-like fold within mRNA)  
IT Escherichia coli  
    (translation repression mechanism compared with; rRNA-like fold in mRNA  
    by binding of ribosomal protein S15 resulted in its own translation)

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L19 ANSWER 11 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:274156 CAPLUS

DN 139:199702

ED Entered STN: 09 Apr 2003

TI Maturity-related variation in the bulk-transformation kinetics of a suite of compositionally related New Zealand coals

AU Killips, Steve; Jarvie, Dan; Sykes, Richard; Funnell, Rob

CS Institute of Geological and Nuclear Sciences, Lower Hutt, 30368, N. Z.

SO Marine and Petroleum Geology (2002), 19(9), 1151-1168

CODEN: MPEGD8; ISSN: 0264-8172

PB Elsevier Science Ltd.

DT Journal

LA English

CC 51-15 (Fossil Fuels, Derivatives, and Related Products)

AB Bulk HI transformation kinetics were detd. by open-system pyrolysis for a suite of compositionally related Late Cretaceous to Paleocene coals from Tara-1 well, Great South Basin, New Zealand. These coals span a maturity range encompassing the onset of significant oil generation and expulsion. Kinetic parameters were also obtained for one of the immature samples following artificial maturation by hydrous pyrolysis. Kinetic models were based on three modes of optimization of kinetic parameters: discrete-Eact distribution with single variable A value; discrete-Eact distribution with fixed A (1014 s<sup>-1</sup>); and Gaussian-Eact distribution with single variable A value. HI transformation-rate vs. temp. envelopes for the naturally matured coals exhibited an abrupt jump to higher temp. near Rank(Sr) 12.5, apparently coinciding with the onset of significant paraffinic oil expulsion, for all optimization modes. The artificially matured sample does not predict this shift in transformation envelopes, which suggests that certain of the reactions that occur under natural maturation do not occur during lab. pyrolysis. The structural \*\*\*rearrangements\*\*\* occurring up to the expulsion threshold, some or all of which are responsible for the increase in HI up to Rank(Sr).apprx.11, are not manifested in changes in HI transformation-rate envelopes. However, the presence of adsorbed bitumen may \*\*\*mask\*\*\* the influence of structural \*\*\*rearrangements\*\*\* during optimization of the kinetic data, which could explain the behavior of the transformation-rate envelopes in the Rank(Sr) 11.0-12.5 range obtained from the discrete-Eact free-A optimization. This behavior involves a regression in transformation-rate envelopes to lower temps. as the amt. of retained bitumen increases prior to expulsion. The almost perfect nesting of transformation-rate envelopes subsequent to oil expulsion suggests either that any further structural \*\*\*rearrangement\*\*\* does not produce a significant change in the A and Eact distributions of hydrocarbon-generating bonds, or that the expulsion drastically reduces the degree of further \*\*\*rearrangements\*\*\* involving hydrocarbon-generating moieties within the kerogen. Kinetic parameters for immature coals should not be considered ideal for modeling the whole phase of hydrocarbon generation. Nevertheless, the kinetic parameters for the least mature Tara coal (Rank(Sr).apprx.8.5) reproduced the normalized HI trend for the entire suite of coals with reasonable accuracy over the maturity range considered (Rank(Sr).apprx.8.5-15.0), only slightly underestimating conversion at the lower maturity levels and overestimating it slightly at the higher levels.

ST coal petroleum genesis transformation kinetics New Zealand

IT Diagenesis

Petroleum genesis

Reaction kinetics

(maturity-related variation in the bulk-transformation kinetics of a suite of compositionally related New Zealand coals)

IT Coal, processes

RL: GFM (Geological or astronomical formation); GPR (Geological or astronomical process); FORM (Formation, nonpreparative); PROC (Process) (maturity-related variation in the bulk-transformation kinetics of a suite of compositionally related New Zealand coals)

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 12 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:812699 CAPLUS

ED Entered STN: 25 Oct 2002

TI Production method of pattern formation method and semiconductor integrated circuit device. [Machine Translation].

IN Terasawa, Tsuneo; Tanaka, Toshihiko; Hasegawa, Takao; Hattori, Koji

PA Hitachi Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H01L021-027  
 ICS G03F001-08; G03F007-20; H01L021-3205; H01L023-12

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002313696	A2	20021025	JP 2001-114762	20010413
PRAI	JP 2001-114762		20010413		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002313696	ICM	H01L021-027
	ICS	G03F001-08; G03F007-20; H01L021-3205; H01L023-12
	IPCI	H01L0021-027 [ICM,7]; G03F0001-08 [ICS,7]; G03F0007-20 [ICS,7]; H01L0021-3205 [ICS,7]; H01L0023-12 [ICS,7]

AB [Machine Translation of Descriptors]. In formation process of the bonding pad and \*\*\*rearrangement\*\*\* wiring, the semiconductor integrated circuit device is produced low the price which designates the mercury lamp as the illuminant making use of the exposure device and the \*\*\*photomask\*\*\* which designates organic photopolymer as the substantial shade material. \*\*\*Mask\*\*\* cost can be decreased. In addition, the high performance it is possible in the little multi kinds according to customer use to raise the productivity of the semiconductor device.

L19 ANSWER 13 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:812537 CAPLUS

ED Entered STN: 25 Oct 2002

TI Bulk acoustic resonator and method and system for wafer level alignment of filter. [Machine Translation].

IN [NAME NOT TRANSLATED], [NAME NOT TRANSLATED]; [NAME NOT TRANSLATED], [NAME NOT TRANSLATED]; [NAME NOT TRANSLATED], [NAME NOT TRANSLATED]

PA [NAME NOT TRANSLATED], Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G10K011-02

ICS H01L041-22; H03H003-04

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002311959	A2	20021025	JP 2002-18553	20020128
PRAI	US 2001-784634	A	20010215		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002311959	ICM	G10K011-02
	ICS	H01L041-22; H03H003-04
	IPCI	G10K0011-02 [ICM,7]; H01L0041-22 [ICS,7]; H03H0003-04 [ICS,7]

AB [Machine Translation of Descriptors]. Method and the system in order to achieve the resonance frequency of desire of the bulk acoustic wave device inside allowance of specification are offered. Being the method of making the bulk acoustic wave device align which is produced from plural acoustic wave generation and control which were formed on the baseplate layer, approaching the \*\*\*mask\*\*\* which possesses the aperture to the surface of the aforementioned device, offering the beam of the particle with respect to process and the \*\*\*mask\*\*\* which it provides, the aforementioned particle beam making one part the aperture pass at least, the aforementioned device surface substantially making the contact area contact which is demarcated by the aforementioned aperture, \*\*\*rearranging\*\*\* the aperture of process and the aforementioned \*\*\*mask\*\*\* which change the thickness of the aforementioned device substantially in cross direction vis-a-vis the aforementioned device surface, changes the aforementioned contact area the process which The method of including.

L19 ANSWER 14 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN



AN 2002:451520 CAPLUS  
 DN 137:227381  
 ED Entered STN: 16 Jun 2002  
 TI The t(4;22)(q12;q11) in atypical chronic myeloid leukaemia fuses BCR to PDGFRA  
 AU Baxter, E. Joanna; Hochhaus, Andreas; Bolufer, Pascual; Reiter, Andreas; Fernandez, Jose M.; Senent, Leonor; Cervera, Jose; Moscardo, Federico; Sanz, Miguel A.; Cross, Nicholas C. P.  
 CS Wessex Regional Genetics Laboratory, Salisbury District Hospital, Salisbury, SP2 8BJ, UK  
 SO Human Molecular Genetics (2002), 11(12), 1391-1397  
 CODEN: HMGE5; ISSN: 0964-6906  
 PB Oxford University Press  
 DT Journal  
 LA English  
 CC 3-3 (Biochemical Genetics)  
 Section cross-reference(s): 6, 14  
 AB Chronic myeloid leukemia (CML) is characterized by the presence of the BCR-ABL fusion gene, usually in assocn. with the t(9;22)(q34;q11) translocation. We report here the identification and cloning of a rare variant translocation, t(4;22)(q12;q11), in two patients with a CML-like myeloproliferative disease (MPD). RT-PCR indicated that both patients were neg. for BCR-ABL, but FISH anal. suggested that the BCR gene was \*\*\*rearranged\*\*\*. Since other translocations in MPDs frequently involve tyrosine kinases, we designed a multiplex PCR to search for mRNA fusions between BCR and three potential partner genes at 4q12: KIT, KDR and PDGFRA. An unusual inframe BCR-PDGFRA fusion mRNA was identified in both patients, with either BCR exon 7 or exon 12 fused to short BCR intron-derived sequences, which were in turn fused to part of PDGFRA exon 12. Sequencing of the genomic breakpoint junctions showed that the chromosome 22 breakpoints fell in BCR introns whereas the chromosome 4 breakpoints were within PDGFRA exon 12. This is the first report of a fusion gene that involves PDGFRA. Our findings indicate that apparently simple cytogenetic variants of t(9;22) do not always \*\*\*mask\*\*\* a cryptic BCR-ABL fusion, even when found in assocn. with clin. and hematol. indications of CML.  
 ST human chronic myeloid leukemia BCR PDGFRA gene fusion; chromosome translocation BCR PDGFRA human leukemia  
 IT Chimeric gene  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (BCR exon 7 or exon 12 fused to PDGFRA exon 12; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT mRNA  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (BCR-PDGFRA fusion; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT Gene, animal  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (BCR; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT Gene, animal  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (PDGFRA; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT Leukemia  
 (chronic myelocytic; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT Genetic element  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (exon, 127, of PDGFRA; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)  
 IT Genetic element  
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (exon, 7 and 12, of BCR; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Diagnosis  
(genetic; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Chromosome  
(human 22; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Chromosome  
(human 4, breakpoint, PDGFRA disruption by; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT PCR (polymerase chain reaction)  
(multiplex; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Molecular cloning  
(of translocation, t(4;22)(q12;q11); translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Recombination, genetic  
(translocation, t(4;22)(q12;q11); translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Genetic mapping  
Human  
(translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

IT Platelet-derived growth factor receptors  
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
(.alpha., PDGFRA; translocations t(4;22)(q12;q11) in atypical chronic myeloid leukemia fuses BCR to PDGFRA)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 15 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:290033 CAPLUS

DN 137:2387

ED Entered STN: 18 Apr 2002

TI Molecular dynamics characterization of the C2 domain of protein kinase C.beta.

AU Banci, Lucia; Cavallaro, Gabriele; Kheifets, Viktoria; Mochly-Rosen, Daria  
CS Centro di Risonanze Magnetiche, University of Florence, Florence, 50019, Italy

SO Journal of Biological Chemistry (2002), 277(15), 12988-12997  
 CODEN: JBCHA3; ISSN: 0021-9258  
 PB American Society for Biochemistry and Molecular Biology  
 DT Journal  
 LA English  
 CC 7-5 (Enzymes)  
 AB Protein kinase C (PKC) isoenzymes comprise a family of related enzymes that play a central role in many intracellular eukaryotic signaling events. Isoenzyme specificity is mediated by assocn. of each PKC isoenzyme with specific anchoring proteins, termed RACKs. The C2 domain of .beta.PKC contains at least part of the RACK-binding sites. Because the C2 domain contains also a RACK-like sequence (termed pseudo-RACK), it was proposed that this pseudo-RACK site mediates intramol. interaction with one of the RACK-binding sites in the C2 domain itself, stabilizing the inactive conformation of .beta.PKC. .beta.PKC depends on calcium for its activation, and the C2 domain contains the calcium-binding sites. The x-ray structure of the C2 domain of .beta.PKC shows that three Ca2+ ions can be coordinated by two opposing loops at one end of the domain. Starting from this x-ray structure, we have performed mol. dynamics (MD) calcns. on the C2 domain of .beta.PKC bound to three Ca2+ ions, to two Ca2+ ions, and in the Ca2+-free state, in order to analyze the effect of calcium on the RACK-binding sites and the pseudo-RACK sites, as well as on the loops that constitute the binding site for the Ca2+ ions. The results show that calcium stabilizes the .beta.-sandwich structure of the C2 domain and thus affects two of the three RACK-binding sites within the C2 domain. Also, the interactions between the third RACK-binding site and the pseudo-RACK site are not notably modified by the removal of Ca2+ ions. On that basis, we predict that the pseudo-RACK site within the C2 domain \*\*\*masks\*\*\* a RACK-binding site in another domain of .beta.PKC, possibly the V5 domain. Finally, the MD modeling shows that two Ca2+ ions are able to interact with two mols. of O-phospho-L-serine. These data suggest that Ca2+ ions may be directly involved in PKC binding to phosphatidylserine, an acidic lipid located exclusively on the cytoplasmic face of membranes, that is required for PKC activation.

ST protein kinase Cbeta dynamics C2 domain RACK binding site; calcium protein kinase Cbeta phosphatidylserine membrane mol dynamics simulation

IT Membrane, biological  
 (involvement of Ca2+ ions in protein kinase C binding to phosphatidylserine of membrane)

IT Phosphatidylserines  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (involvement of Ca2+ ions in protein kinase C binding to phosphatidylserine of membrane)

IT Simulation and Modeling  
 (mol. dynamics; mol. dynamics characterization of C2 domain of protein kinase C.beta.)

IT Protein motifs  
 (protein kinase C.beta. C2 domain pseudo-RACK motif; role of calcium in protein kinase C.beta. structure and binding to the membrane)

IT Protein motifs  
 (protein kinase C.beta. RACK-binding sites; role of calcium in protein kinase C.beta. structure and binding to the membrane)

IT Conformation  
 (protein; involvement of Ca2+ ions in protein kinase C binding to phosphatidylserine of membrane)

IT Conformational transition  
 (structural \*\*\*rearrangement\*\*\* in protein kinase C.beta. upon calcium binding)

IT Conformation  
 (.beta.-; stabilization of .beta.-sandwich structure of protein kinase C.beta. C2 domain by calcium)

IT 7440-70-2, Calcium, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (role of calcium in protein kinase C.beta. structure and binding to the membrane)

IT 141436-78-4  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
 (.beta.; mol. dynamics characterization of C2 domain of protein kinase C.beta.)

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L19 ANSWER 16 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:106453 CAPLUS

DN 136:325726

ED Entered STN: 10 Feb 2002

TI Efficient Synthesis of the A-Ring Phosphine Oxide Building Block Useful for 1.alpha.,25-Dihydroxy Vitamin D3 and Analogues

AU Daniewski, Andrzej R.; Garofalo, Lisa M.; Hutchings, Stanley D.; Kabat, Marek M.; Liu, Wen; Okabe, Masami; Radinov, Roumen; Yiannikouros, George P.

CS Chemical Synthesis-Process Research Non-Clinical Development Pre-Clinical

SO Research and Development, Hoffmann-La Roche Inc., Nutley, NJ, 07110, USA  
 Journal of Organic Chemistry (2002), 67(5), 1580-1587  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 32-7 (Steroids)  
 OS CASREACT 136:325726  
 GI

/ Structure 5 in file .gra /

AB The 1.alpha.-hydroxy A-ring phosphine oxide I (TBDMS = SiMe<sub>2</sub>CMe<sub>3</sub>), a useful building block for vitamin D analogs, was synthesized from (S)-carvone in nine synthetic operations and a single chromatog. purifn. in 25% overall yield. The synthesis features two novel efficient synthetic transformations: the Criegee \*\*\*rearrangement\*\*\* of 1.alpha.-methoxy hydroperoxyacetate II in methanol to obtain directly the desired secondary 3.beta.-alc. III and the highly chemo- and stereoselective isomerization of diene oxide ester (E)-IV to the 1.alpha.-allylic alc. with an exocyclic double bond (E)-V. Further insight into the selectivity control of the latter \*\*\*rearrangement\*\*\* was obtained from the reactions of (Z)-epimeric substrates. The new synthetic approach leading to the 1.alpha.-hydroxy epimers complements our previously reported synthesis of the corresponding 1.beta.-epimers, thus producing all stereoisomers of these versatile building blocks efficiently from carvone.

ST phosphine oxide building block A ring vitamin D3 analog; carvone conversion vitamin D3 analog phosphine oxide chiron; stereoselective isomerization diene oxide ester vitamin D3 precursor; Criegee \*\*\*rearrangement\*\*\* methoxy hydroperoxyacetate vitamin D3 precursor

IT Synthons  
 (chiral; efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT 9,10-Secosteroids  
 RL: PNU (Preparation, unclassified); PREP (Preparation)  
 (efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT Phosphines  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (oxides, chiral building blocks; efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT \*\*\*Rearrangement\*\*\*  
 (stereoselective, Criegee; efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT Isomerization  
 (stereoselective; efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT Safety  
 (use protective \*\*\*mask\*\*\* to prevent lithium hydride powder inhalation and use well-ventilated hood for triphosgene)

IT 410075-41-1P  
 RL: BYP (Byproduct); PREP (Preparation)  
 (efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT 867-13-0, Triethyl phosphonoacetate 2244-16-8, (S)-Carvone 326496-97-3 326496-98-4 410075-47-7 410075-54-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (efficient synthesis of the A-ring phosphine oxide building block useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

IT 39903-97-4P 81506-23-2P 81506-24-3P 81506-25-4P 137693-94-8P 227961-42-4P 326496-90-6P 326496-91-7P 326496-92-8P 326496-93-9P 326496-94-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (efficient synthesis of the A-ring phosphine oxide building block

useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)  
IT 81522-68-1P 326496-99-5P 326497-00-1P 326497-01-2P 410075-49-9P  
410075-56-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(efficient synthesis of the A-ring phosphine oxide building block  
useful for 1.alpha.,25-dihydroxy vitamin D3 and analogs)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L19 ANSWER 17 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:727210 CAPLUS

ED Entered STN: 05 Oct 2001

TI Production method of \*\*\*photomask\*\*\* . [Machine Translation].

IN Touji

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F001-08

ICS G03F001-08; H01L021-027

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001272766	A2	20011005	JP 2000-87652	20000327

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001272766	ICM	G03F001-08
	ICS	G03F001-08; H01L021-027
	IPCI	G03F0001-08 [ICM,7]; G03F0001-08 [ICS,7]; H01L0021-027 [ICS,7]

AB [Machine Translation of Descriptors]. Degradation of resolving power of the resist which originates in the stray light and amount of exposure tolerance and the dependency for the extent of degradation of depth of focus are grasped accurately, influence of the stray light is decreased. In the production method of the \*\*\*photomask\*\*\*, C % with it does the covering ratio in the territory within difference R from the central coordinate of test pattern, after exposing the pattern of the \*\*\*mask\*\*\* for measurement which changes the value of R and C to the resist, measures the pattern line width L where, value of R and C differs from the resist pattern which was formed from the amount of exposure of line width L and the value which measured the dependency of depth of focus in the matrix state, measures the process tolerance with the territory of C and R, is sought from the process tolerance which was measured, maximum depth of focus with specified amount of exposure tolerance C and R Draws up the contour line graph as function, range Cn of difference Rn and the covering ratio which satisfy this when specified maximum depth of focus is necessary % seeks, in order the territory inside the Rn the Cn % to be satisfied at the time of the pattern design of the \*\*\*photomask\*\*\*, \*\*\*rearranges\*\*\* the pattern.

L19 ANSWER 18 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:388472 CAPLUS

DN 136:113325

ED Entered STN: 30 May 2001

TI New concepts to improve resolution and sensitivity of molecular

cytogenetic diagnostics by multicolor fluorescence in situ hybridization

AU Saracoglu, K.; Brown, J.; Kearney, L.; Uhrig, S.; Azofeifa, J.; Fauth, C.; Speicher, M. R.; Eils, R.

CS Deutsches Krebsforschungszentrum (DKFZ) Heidelberg, Division "Intelligent Bioinformatics Systems," Heidelberg, Heidelberg, D-69120, Germany

SO Cytometry (2001), 44(1), 7-15

CODEN: CYTODQ; ISSN: 0196-4763

PB Wiley-Liss, Inc.

DT Journal

LA English

CC 3-1 (Biochemical Genetics)

Section cross-reference(s): 14

AB Background: Routine application of multicolor fluorescence in situ hybridization (M-FISH) technol. for mol. cytogenetic diagnostics has been hampered by several tech. limitations. First, when using chromosome-specific painting probes, there is a limit in cytogenetic resoln. of approx. 2-3 Mb, which can \*\*\*mask\*\*\* hidden structural abnormalities that have a significant clin. effect. Second, using whole chromosome painting probes, intrachromosomal \*\*\*rearrangements\*\*\* cannot be detected and the exact localization of breakpoints is often not possible. Methods: We suggest the use of multiplex-labeled region or locus-specific probes in combination with an optimal probe design to improve the sensitivity and resoln. of the M-FISH technol. To allow the application of this assay in routine diagnostics, we developed a multipurpose image anal. system. Results: goldFISH was applied to the study of cryptic translocations in mental retardation patients and to the study of high-resoln. breakpoint mapping in non-small cell lung cancer patients. For an individual with mental retardation, who had an apparently normal karyotype by G-banding, we detected an unbalanced translocation involving chromosomes 2 and 7. Conclusions: In combination with optimally designed probe kits, goldFISH overcomes most of the present limitations of the M-FISH technol. and results in virtually 100% reliability for detecting interchromosomal and intrachromosomal \*\*\*rearrangements\*\*\*.

ST cytogenetic diagnostics multicolor fluorescence in situ hybridization goldFISH

IT Mental retardation

(cryptic (2,7)-translocation detection in patient with; improved resoln. and sensitivity of mol. cytogenetic diagnostics by multicolor

goldFISH)  
IT Imaging  
Karyotyping  
(improved resoln. and sensitivity of mol. cytogenetic diagnostics by  
multicolor goldFISH)  
IT Nucleic acid hybridization  
(in situ, fluorescence, multicolor, goldFISH; improved resoln. and  
sensitivity of mol. cytogenetic diagnostics by multicolor goldFISH)  
IT Probes (nucleic acid)  
RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical  
study); BIOL (Biological study); USES (Uses)  
(locus-specific; improved resoln. and sensitivity of mol. cytogenetic  
diagnostics by multicolor goldFISH)  
IT Diagnosis  
(mol.; improved resoln. and sensitivity of mol. cytogenetic diagnostics  
by multicolor goldFISH)  
IT Lung, neoplasm  
(non-small-cell carcinoma, high-resoln. breakpoint mapping in patients  
with; improved resoln. and sensitivity of mol. cytogenetic diagnostics  
by multicolor goldFISH)  
IT Carcinoma  
(pulmonary non-small-cell, high-resoln. breakpoint mapping in patients  
with; improved resoln. and sensitivity of mol. cytogenetic diagnostics  
by multicolor goldFISH)  
IT Recombination, genetic  
(translocation, cryptic, detection; improved resoln. and sensitivity of  
mol. cytogenetic diagnostics by multicolor goldFISH)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 19 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:299881 CAPLUS

ED Entered STN: 27 Apr 2001

TI \*\*\*Mask\*\*\* and its production method for semiconductor lithography.  
[Machine Translation].

IN Kise, Koji; Marumoto, Kenji; Aya, Atsushi; Murakami, Takaki

PA Mitsubishi Electric Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-027

ICS G03F001-16; G03F009-00

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001118770	A2	20010427	JP 1999-294678	19991018
PRAI	JP 1999-294678		19991018		

CLASS



PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001118770	ICM ICS IPCI	H01L021-027 G03F001-16; G03F009-00 H01L0021-027 [ICM,7]; G03F0001-16 [ICS,7]; G03F0009-00 [ICS,7]
AB	<p>[Machine Translation of Descriptors]. It designates that the X-ray ***mask*** of high accuracy or the ***mask*** for semiconductor lithography is obtained as purpose. Beforehand the process S 11 which on the ***mask*** produces the plural 1st marks with the system of coordinates of desire and the above-mentioned ***mask*** inside the EB drawing device, after temperature reaching to the balanced state, with the above-mentioned EB drawing device the measurement method it does the site relationship of the above-mentioned plural 1st marks, this measurement method value and related to site, in the system of coordinates of above-mentioned desire detects the site strain of the ***mask*** which is a 1st assistant conditioned weight from the gap ***rearranging*** the above-mentioned copying pattern in the site which compensates the above-mentioned site strain, administering with process S12 which draws, produces the ***mask*** for semiconductor lithography.</p>	
L19	ANSWER 20 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN	
AN	2001:241122 CAPLUS	
DN	135:37623	
ED	Entered STN: 05 Apr 2001	
TI	Catalytic CO oxidation over pumice supported Pd-Ag catalysts	
AU	Venezia, A. M.; Liotta, L. F.; Deganello, G.; Schay, Z.; Horvath, D.; Guczi, L.	
CS	Istituto di Chimica e Tecnologia dei Prodotti Naturali (ICTPN-CNR), Palermo, 90146, Italy	
SO	Applied Catalysis, A: General (2001), 211(2), 167-174	
-	CODEN: ACAGE4; ISSN: 0926-860X	
PB	Elsevier Science B.V.	
DT	Journal	
LA	English	
CC	67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms) Section cross-reference(s): 51, 59	
AB	<p>The results of expts. on the catalytic oxidn. of CO at 523 K over bimetallic Pd-Ag catalysts supported on pumice are reported and compared with those obtained from monometallic Pd and Ag catalysts. The catalysts were prep'd. from organometallic precursors and were characterized by x-ray diffraction (XRD) and XPS after different treatments with air and with hydrogen. The activity of the catalysts decreases with increasing Ag/Pd at. ratio, the monometallic palladium exhibiting the highest activity. Furthermore, the treatment with air and with hydrogen always results in a better catalytic performance. On the basis of the structural characterization by XRD and the surface at. compn. obtained from XPS measurements, Ag has tendency to segregate at the surface of the catalysts, except in an air environment at 623 K. In this case, an inward diffusion of silver atoms occurs. With hydrogen treatment at high temp., silver reappears at the surface, with further increase of the catalytic activity. The results are explained in terms of ***rearrangement*** of the bimetallic particles, with the most active situation represented by clean particles of pure palladium next to dispersed silver particles.</p>	
ST	carbon monoxide oxidn pumice supported palladium silver catalyst	
IT	<p>Oxidation Oxidation catalysts X-ray diffraction X-ray photoelectron spectroscopy (carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization)</p>	
IT	<p>Pumice RL: CAT (Catalyst use); USES (Uses) (carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization in relation to)</p>	
IT	<p>Respirators (gas ***masks*** ; carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization in relation to use in)</p>	
IT	<p>Exhaust gases (engine) (treatment of; carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization in relation to)</p>	
IT	7440-05-3, Palladium, uses 7440-22-4, Silver, uses	

RL: CAT (Catalyst use); USES (Uses)  
(carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization)

IT 630-08-0, Carbon monoxide, reactions  
RL: RCT (Reactant); REM (Removal or disposal); PROC (Process); RACT (Reactant or reagent)  
(carbon monoxide oxidn. over pumice-supported Pd-Ag catalysts and catalyst characterization)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L19 ANSWER 21 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:120984 CAPLUS

DN 135:339920

ED Entered STN: 18 Feb 2001

TI Identification of a subtle t(16;19)(p13.3;p13.3) in an infant with multiple congenital abnormalities using a 12-colour multiplex FISH telomere assay, M-TEL

AU Brown, Jill; Horsley, Sharon W.; Jung, Christine; Saracoglu, Kaan; Janssen, Bart; Brough, Michaela; Daschner, Markus; Beedgen, Bernd; Kerkhoffs, Guido; Eils, Roland; Harris, Peter C.; Jauch, Anna; Kearney, Lyndal

CS MRC Molecular Haematology Unit, Institute of Molecular Medicine, Oxford, OX3 9DS, UK

SO European Journal of Human Genetics (2000), 8(12), 903-910  
CODEN: EJHG EU; ISSN: 1018-4813

PB Nature Publishing Group

DT Journal

LA English

CC 3-1 (Biochemical Genetics)  
Section cross-reference(s): 14

AB There is increasing evidence that cytogenetically invisible chromosome \*\*\*rearrangements\*\*\* are an important cause of genetic disease. Clues to the chromosomal location of these \*\*\*rearrangements\*\*\* may be provided by a specific clin. diagnosis, which can then be investigated by targeted FISH or mol. studies. However, the phenotypic features of some microdeletion syndromes are difficult to recognize, particularly in infants. In addn., the presence of other chromosome aneuploidy may \*\*\*mask\*\*\* the typical clin. features. In the present study, the presence of tubers on cranial magnetic resonance imaging (MRI) of a 5-wk-old infant prompted an investigation, by FISH, with probes from the tuberous sclerosis gene, TSC2. This and further FISH deletion mapping studies revealed a submicroscopic deletion encompassing the entire TSC2 gene and the adjacent PKD1 gene on one chromosome 16, confirming a del(16)(p13.3). Because of the large no. of abnormal phenotypic features

in this infant, we performed a 12-color FISH assay (M-TEL) to screen for subtelomeric \*\*\*rearrangements\*\*\* involving the del(16p). The M-TEL assay revealed a cryptic der(16)t(16;19)(p13.3;p13.3). Further FISH with 19p and 19q subtelomeric probes demonstrated that this was derived from a balanced maternal t(16;19)(p13.3;p13.3). Importantly, 24-color painting by multiplex FISH (M-FISH) failed to detect the translocation in either the infant or his mother. Based on our FISH mapping studies, we est. the size of the trisomic region from 19p13.3 to be approx. 2Mb, and the region of monosomy for 16p13.3 as 2.25 Mb. This case adds to the growing literature which indicates that many apparent chromosomal deletions are unbalanced translocations. The M-TEL assay provides a sensitive alternative to M-FISH for the detection of these subtle telomeric \*\*\*rearrangements\*\*\*.

ST chromosome telomere \*\*\*rearrangement\*\*\* infant FISH  
IT Gene, animal  
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
(PKD1; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Gene, animal  
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
(TSC2; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Mutation  
(deletion; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Disease, animal  
(genetic; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Chromosome  
(human 16; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Chromosome  
(human 19; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Nucleic acid hybridization  
(in situ, fluorescence; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Development, mammalian postnatal  
(infant; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Diagnosis  
(mol.; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Telomeres (chromosome)  
(telomeric \*\*\*rearrangements\*\*\* detection; identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)  
IT Recombination, genetic  
(translocation, reciprocal, t(16;19)(p13.3;p13.3); identification of subtle t(16;19)(p13.3;p13.3) in infant with multiple congenital abnormalities using 12-color multiplex FISH telomere assay, M-TEL)

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L19 ANSWER 22 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:865924 CAPLUS

ED Entered STN: 12 Dec 2000

TI Method for manufacturing a spacer for a flat panel display

IN Jung, Sung Jae; Woo, Kwang Je; Kim, Kwan Soo; Moon, Gwon Jin

PA Orion Electric Co., Ltd., S. Korea

SO U.S., 15 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM H01J009-00

ICS H01J009-24

INCL 445024000; 445023000

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6159065	A	20001212	US 1998-143497	19980828
PRAI	KR 1997-43046	A	19970829		
	KR 1997-50242	A	19970930		
	KR 1997-50243	A	19970930		
	KR 1998-34068	A	19980821		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6159065	ICM	H01J009-00
	ICS	H01J009-24
	INCL	445024000; 445023000
	IPCI	H01J0009-00 [ICM,7]; H01J0009-24 [ICS,7]
	NCL	445/024.000; 445/023.000
	ECLA	H01J009/18B; H01J009/24D; H01J029/02K

AB The present invention relates to a method for manufacturing a spacer used in a flat panel display. At the first printing process, a printing \*\*\*mask\*\*\* produces a primary spacer on a substrate. After removing the printing \*\*\*mask\*\*\*, a supporting plate having a hole to excess the primary spacer is placed on the substrate and then the printing \*\*\*mask\*\*\* is \*\*\*rearranged\*\*\* on the supporting plate. A subsequent printing process is applied repeatedly to the printing \*\*\*mask\*\*\* with the supporting plate to extend the height of the primary spacer to the amount of the thickness of the supporting plate, thereby producing an elongated finished spacer.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(3) Ohoshi; US 5949184 1999

L19 ANSWER 23 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:700869 CAPLUS

DN 134:24009

ED Entered STN: 05 Oct 2000

TI Effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions

AU Sung, Gun Yong; Choi, Chi Hong; Kang, Kwang-Yong; Lee, Moon-Chul; Lee, Soon-Gul  
 CS Electronics and Telecommunications Research Institute, Taejon, 305-350, S. Korea  
 SO Institute of Physics Conference Series (2000), 167(Applied Superconductivity 1999, Vol. 2), 217-220  
 CODEN: IPCSEP; ISSN: 0951-3248  
 PB Institute of Physics Publishing  
 DT Journal  
 LA English  
 CC 76-4 (Electric Phenomena)  
 Section cross-reference(s): 66, 74  
 AB We fabricated high-Tc superconducting YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub>(YBCO)/YBa<sub>2</sub>Cu<sub>0.79</sub>Co<sub>0.21</sub>O<sub>7-x</sub>(Co-YBCO)/YBCO ramp-edge Josephson junctions on (001) SrTiO<sub>3</sub> single crystal substrates and studied the effects of post-ion-milling and pre-annealing of the ramp-edge prior to the top layer and post annealing process. The ion-beam voltage, the ion-beam incident angle, and the photoresist \*\*\*mask\*\*\* angle to yield smooth slopes with an angle of about 30.degree. were optimized. The morphol. of the edge was improved by the post-ion-milling, as were the edge-surface-induced epitaxial growth and the small interface resistance between the top YBCO layer and the Co-YBCO barrier. Annealing prior to barrier deposition recovered the ramp-edge surface and increased the Tc of the edge. Annealing assisted an epitaxial growth of the top YBCO layer on the ramp edge. Post-annealing at a temp. above the deposition temp. and cooling at 500 torr O<sub>2</sub> induced the epitaxial \*\*\*rearrangement\*\*\* of Co-YBCO at a high oxygen vapor pressure. The current-voltage characteristics of the junctions showed RSJ-like behavior.  
 ST barium yttrium cobalt cuprate Josephson junction ion milling annealing  
 IT Annealing  
 Controlled atmospheres  
 Electric current-potential relationship  
 Electric resistance  
 Josephson junctions  
 Photolithography  
 Surface structure  
 (effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT Machining  
 (ion-beam milling; effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT Vapor deposition process  
 (laser ablation; effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT Cleaning  
 (plasma; effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT 7782-44-7, Oxygen, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (annealing ambient; effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT 109064-29-1D, Barium copper yttrium oxide Ba<sub>2</sub>Cu<sub>3</sub>YO<sub>7</sub>, oxygen-deficient  
 229315-90-6D, Barium cobalt copper yttrium oxide Ba<sub>2</sub>Co<sub>0.21</sub>Cu<sub>0.79</sub>YO<sub>7</sub>, oxygen-deficient  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT 14791-69-6, Argon 1+, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 IT 12060-59-2, Strontium titanate  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (substrate; effects of post-ion-milling, pre-annealing, and post-annealing on the characteristics of high-Tc ramp-edge junctions)  
 RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L19 ANSWER 24 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:634417 CAPLUS

DN 133:338779

ED Entered STN: 13 Sep 2000

TI The high temperature tensile and compressive deformation characteristics of magnesia doped alumina

AU Kottada, R. S.; Chokshi, A. H.

CS Department of Metallurgy, Indian Institute of Science, Bangalore, 560 012, India

SO Acta Materialia (2000), 48(15), 3905-3915

CODEN: ACMAFD; ISSN: 1359-6454

PB Elsevier Science Ltd.

DT Journal

LA English

CC 57-2 (Ceramics)

AB The mech. characteristics of alumina have not yet been characterized completely in tension due in part to strain hardening accompanying grain growth and premature cavitation failure. Tensile tests were conducted on fine grained magnesia doped alumina over a range of strain rates, grain sizes and temps. to evaluate the stress exponent, inverse grain size exponent and activation energy. Const. stress compression creep tests were also carried out under a similar range of exptl. conditions. Extensive microstructural characterization after deformation indicated that there was considerable grain growth during deformation; however, the grains retained their initially equiaxed structure after significant deformation. Although a std. plot of strain rate vs. stress indicated a stress exponent of .apprx.2, a complete anal. including the compensation of data for concurrent grain growth revealed that true stress exponent was .apprx.1, consistent with diffusion creep. It is argued that grain \*\*\*rearrangement\*\*\* processes accompanying grain growth will tend to \*\*\*mask\*\*\* the development of an elongated grain structure predicted by diffusion creep processes. In contrast to several ceramics with a significant amt. of glassy phase, there is no significant difference between the elevated temp. tensile and compressive behavior of alumina.

ST alumina magnesia doping high temp deformation

IT Cavitation

(failure mechanism; high-temp. tensile creep and compressive deformation characteristics of magnesia-doped alumina ceramic)

IT Stress, mechanical

(flow; high-temp. tensile creep and compressive deformation characteristics of magnesia-doped alumina ceramic)

IT Ceramics

Compressive strength

Creep

Doping

Grain boundary diffusion

Grain growth

(high-temp. tensile creep and compressive deformation characteristics of magnesia-doped alumina ceramic)

IT 1309-48-4, Magnesia, properties

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)

(high-temp. tensile creep and compressive deformation characteristics of magnesia-doped alumina ceramic)

IT 1344-28-1, Alumina, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(high-temp. tensile creep and compressive deformation characteristics of magnesia-doped alumina ceramic)

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 25 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:622358 CAPLUS  
 DN 133:185653  
 ED Entered STN: 07 Sep 2000  
 TI Method of fabricating a front plate for a plasma display panel  
 IN Sung, Wen-Fa; Lu, Jin-Yuh; Su, Yao-Ching  
 PA Acer Display Technology, Inc., Taiwan  
 SO U.S., 12 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English

IC ICM H01J009-02  
INCL 445024000  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6113449	A	20000905	US 1999-351969	19990712
PRAI	TW 1998-87111339	A	19980713		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6113449	ICM	H01J009-02
	INCL	445024000
	IPCI	H01J0009-02 [ICM,7]
	NCL	445/024.000; 430/315.000
	ECLA	H01J009/02

AB A front plate for a plasma display panel (PDP) and its modified fabricating method are provided using a backside exposure process and an appropriate processing sequence \*\*\*rearrangement\*\*\* to reduce the no. of \*\*\*photomasks\*\*\* required and improve the accuracy of exposure and developing process. First, a light-shielding layer is patterned by performing a mesh printing process, or by performing an exposure and developing process using a 1st \*\*\*photomask\*\*\*, so as to form a light-shielding structure including black stripes and transparent electrodes' gaps. Next, using the light-shielding structure as a \*\*\*mask\*\*\*, a backside exposure and developing process as well as an etching process was performed to form a plurality of pairs of transparent electrodes on the substrate. Then, using a 2nd \*\*\*photomask\*\*\*, another set of exposure, developing and etching processes were performed to form a plurality of pairs of metal electrodes on the corresponding transparent electrodes.

ST fabricating front plate plasma display panel

IT Films

(elec. conductive, transparent; in method of fabricating front plate for plasma display panel)

IT Transparent films

(elec. conductive; in method of fabricating front plate for plasma display panel)

IT Electric conductors

Electric conductors

(films, transparent; in method of fabricating front plate for plasma display panel)

IT Etching

Etching \*\*\*masks\*\*\*

Light shields

Negative photoresists

Photolithography

Photoresists

Printing (impact)

(in method of fabricating front plate for plasma display panel)

IT Metals, processes

Plate glass

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(in method of fabricating front plate for plasma display panel)

IT Electronic device fabrication

Plasma display panels

(method of fabricating front plate for plasma display panel)

IT Electrodes

(method of fabricating front plate for plasma display panel with)

IT Electrodes

(transparent; method of fabricating front plate for plasma display panel with)

IT 7429-90-5, Aluminum, processes 7440-47-3, Chromium, processes

7440-50-8, Copper, processes 18282-10-5, Tin dioxide 50926-11-9, ITO 117944-65-7, Indium zinc oxide

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(in method of fabricating front plate for plasma display panel)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD



RE  
(1) Liu; US 5725407 1998 CAPLUS  
(2) Sugihara; US 4948706 1990 CAPLUS

L19 ANSWER 26 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2000:435690 CAPLUS  
DN 133:95913  
ED Entered STN: 29 Jun 2000  
TI Nanometer-scale copper electrodeposition from an on-chip source  
AU Wu, Mingshaw W.; Sohn, Lydia L.  
CS Physics Department, Princeton University, Princeton, NJ, 08544, USA  
SO IEEE Electron Device Letters (2000), 21(6), 277-279  
CODEN: EDLEDZ; ISSN: 0741-3106  
PB Institute of Electrical and Electronics Engineers  
DT Journal  
LA English  
CC 72-2 (Electrochemistry)  
AB Using both an on-chip anode as a source of Cu and a Cu-free, acidic electroplating soln., electrodes with sepns. on the order of 10 nm or less were fabricated. During the electrodeposition process, steplike increases in conductance was obsd., corresponding to at. \*\*\*rearrangement\*\*\*. These conductance steps indicate that the sepn. between the electrodes is on the at. length scale. Applications of this technique include the fabrication of electrodes with nanometer sepns. and the repair of both malformed bus lines and damaged \*\*\*masks\*\*\*.  
ST copper nanoscale electroplating onchip anode  
IT Electrodeposition  
Nanostructures  
(nanometer-scale copper electroplating from an on-chip source)  
IT Anodes  
(on-chip; nanometer-scale copper electroplating from)  
IT 7440-50-8, Copper, properties  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(nanometer-scale copper electroplating from an on-chip source)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
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L19 ANSWER 27 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:732026 CAPLUS  
DN 131:325980  
ED Entered STN: 17 Nov 1999  
TI Is there diffusion creep in alumina?  
AU Kottada, R. S.; Chokshi, A. H.  
CS Department Metallurgy, Indian Institute Science, Bangalore, 560012, India  
SO Key Engineering Materials (2000), 171-174(Creep and Fracture of Engineering Materials and Structures), 779-786  
CODEN: KEMAEY; ISSN: 1013-9826  
PB Trans Tech Publications Ltd.  
DT Journal; General Review  
LA English  
CC 57-0 (Ceramics)  
AB A review with 38 refs. on the characterization of mech. properties of alumina-based ceramics and then describes new exptl. results on alumina doped with 300 ppm magnesia. Tensile expts. at elevated temp. were

carried out on alumina doped magnesia, followed by SEM which revealed a considerable concurrent grain growth during tensile deformation of polycryst. alumina. A stress exponent for deformation of 1.3 was found together with an inverse grain size exponent of .apprx.3. It is argued that the occurrence of concurrent grain growth and the assocd. grain \*\*\*rearrangement\*\*\* will \*\*\*mask\*\*\* the appearance of grain elongation, so that microstructural observations, indicating a retention of an equiaxed grain shape as well as grain boundary sliding, are consistent with deformation by diffusion creep.

ST review alumina ceramic diffusion creep

IT Ceramics

(diffusion creep in alumina ceramics)

IT Creep

(diffusion-controlled; diffusion creep in alumina ceramics)

IT 1344-28-1, Alumina, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(diffusion creep in alumina ceramics)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (18) Greenwood, G; Scripta Metall Mater 1994, V30, P1527 CAPLUS
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L19 ANSWER 28 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:494228 CAPLUS

DN 131:270790

ED Entered STN: 10 Aug 1999

TI Gene targeting of the KI-KII sequence elements in a model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of the .kappa. locus

AU Liu, Xiangdong; Van Ness, Brian

CS Department of Biochemistry and the Cancer Center, University of Minnesota, Minneapolis, MN, 55455, USA

Section cross-reference(s): 3

AB To study the role of individual sequence elements in the coordinate regulation of \*\*\*rearrangement\*\*\* and germline transcription of the .kappa. locus, we have developed a gene targeting system with a mouse model pre-B cell line, 38B9. This line can be induced to initiate .kappa. germline transcription and V-J \*\*\*rearrangement\*\*\*. Importantly, the effects of gene disruption in the cell line can be analyzed independent of selective pressures that may \*\*\*mask\*\*\* effects in the developing immune system of the mouse. We focused our study on targeting mutation of the endogenous KI-KII sequence elements to allow a direct comparison with the same gene disruption reported in mouse studies. Mutations were targeted to one allele, and effects on induced transcription and \*\*\*rearrangement\*\*\* were compared to the remaining wild type allele. Our results show that KI-KII mutation has little effect on germline transcription, and reduced the frequency of \*\*\*rearrangement\*\*\* two fold compared to the wild type allele. This report demonstrates that the use of model pre-B cell lines for targeted gene disruption is an attractive alternative to targeting the germline of the mouse.

ST gene targeting KI KII element mutation B cell; kappa gene transcription  
\*\*\*rearrangement\*\*\* KI KII element mutation

IT Animal cell line  
(38B9, model pre-B cell; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Gene, animal  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(Ig..kappa.; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Genetic element  
RL: BPR (Biological process); BSU (Biological study, unclassified); REM (Removal or disposal); BIOL (Biological study); PROC (Process)  
(KI-KII sequence, mutation in; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT B cell (lymphocyte)  
Gene targeting  
V(D)J recombination  
(gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Immunoglobulins  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Mutation  
(in KI-KII sequence; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Transcription, genetic  
(of .kappa. locus, KI-KII mutation has little effect on; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

IT Recombination, genetic  
( \*\*\*rearrangement\*\*\* , of .kappa. locus, KI-KII mutation reduced frequency of; gene targeting of KI-KII sequence elements in model pre-B cell line: effects on germline transcription and \*\*\*rearrangement\*\*\* of .kappa. locus)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L19 ANSWER 29 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:443614 CAPLUS

DN 131:207402

ED Entered STN: 20 Jul 1999

TI Micropyramidal hillocks on KOH-etched {100} silicon surfaces: formation, prevention and removal

AU Schroder, H.; Obermeier, E.; Steckenborn, A.

CS Technical University of Berlin, MAT, Secr. TIB 3.1, Berlin, D-13355, Germany

SO Journal of Micromechanics and Microengineering (1999), 9(2), 139-145

CODEN: JMMIEZ; ISSN: 0960-1317

PB Institute of Physics Publishing

DT Journal

LA English

CC 76-3 (Electric Phenomena)

AB The formation, prevention, and removal of micropyramids at the {100} bottom of anisotropically etched cavities are investigated and discussed. In the case of pure KOH solns., the base of the micropyramids has been found to be always rectangular or octagonal-shaped. The formation is independent of the KOH supplier and the etch- \*\*\*mask\*\*\* opening process. The \*\*\*rearrangement\*\*\* of the rectangular-based micropyramids on the {100} etch bottom depends on the etching time, etching position of the chip (vertical or horizontal), and on the oxygen content in connection with the thermal history of the wafer material. For both types of micropyramid, the surface d. and size increase with decreasing KOH concn. and etching temp. Moreover, the proportion of octagonal micropyramids rises under these conditions. The origin is discussed in terms of micromasking by H<sub>2</sub>-bubbles in connection with plateau generation and layer-by-layer peeling of the {111} planes. Other mechanisms which are suggested in the literature are discussed. Further, it was exhibited that already arisen micropyramids can be removed by a short re-etching in the same etch bath under the same conditions.

ST silicon surface etching micropyramidal hillock

IT Etching

(micropyramidal hillocks on KOH-etched {100} silicon surfaces)

IT 1310-58-3, Potassium hydroxide, uses

RL: NUU (Other use, unclassified); USES (Uses)

(micropyramidal hillocks on KOH-etched {100} silicon surfaces)

IT 7440-21-3, Silicon, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(micropyramidal hillocks on KOH-etched {100} silicon surfaces)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L19 ANSWER 30 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:336027 CAPLUS  
DN 131:95692  
ED Entered STN: 02 Jun 1999  
TI Characteristics of high-Tc ramp-edge junctions with Co-doped YBa2Cu3O7-x barriers  
AU Lee, Moon-Chul; Sung, Gun Yong; Kang, Kwang-Yong; Lee, Soon-Gul  
CS Department of Physics, Korea University, Seoul, 136-701, S. Korea  
SO Ungyong Mulli (1999), 12(2), 123-131  
CODEN: HMMMEY; ISSN: 1013-7009  
PB Korean Physical Society  
DT Journal  
LA Korean  
CC 76-4 (Electric Phenomena)  
AB The authors fabricated high-Tc superconducting YBa2Cu3O7-x/YBa2Cu0.79Co0.21O7-x/YBa2Cu3O7-x ramp-edge Josephson junctions on (001) SrTiO3 single-crystal substrates and studied the effects of post ion-milling and pre-annealing of the ramp-edge prior to the top layer and post-annealing process. The ion beam voltage, the ion beam incident angle, and the PR \*\*\*mask\*\*\* angle to yield smooth slopes with an angle of .apprx.30.degree. were optimized. The morphol. of the edge was improved by the post ion-milling, as were the edge-surface-induced epitaxial growth and the small interface resistance between the top YBCO layer and the Co-doped YBCO barrier. Annealing prior to barrier deposition recovered the ramp-edge surface and increased the Tc of the edge. Annealing helped epitaxial growth of the top YBCO layer on the ramp edge. Post-annealing at a temp. above the deposition temp. and cooling at 500 torr O2 induced the epitaxial \*\*\*rearrangement\*\*\* of Co-doped YBCO at a high O vapor pressure. The current-voltage characteristics of the junctions showed RSJ-like behavior.  
ST barium cobalt copper yttrium oxide ramp junction fabrication  
IT Annealing  
Cooling  
Dopants  
Electric current-potential relationship  
Electronic device fabrication  
Josephson junctions  
Laser epitaxy  
Surface resistance  
(fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)  
IT Machining  
(ion-beam milling; fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)  
IT Vapor deposition process  
(laser ablation; fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)  
IT 7440-48-4, Cobalt, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)  
IT 7440-37-1D, Argon, ions, processes 7782-44-7, Oxygen, processes  
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)  
IT 109064-29-1D, Barium copper yttrium oxide (Ba2Cu3YO7), oxygen-deficient 229315-90-6D, Barium cobalt copper yttrium oxide (Ba2Co0.21Cu0.79YO7), oxygen-deficient  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)

IT 12060-59-2, Strontium titanate

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fabrication and characteristics of high-Tc ramp-edge junctions with cobalt-doped barium copper yttrium oxide barriers)

L19 ANSWER 31 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:87254 CAPLUS

DN 130:231353

ED Entered STN: 11 Feb 1999

TI One- and Two-Electron Oxidative Pathways Leading to Cyclopropane-Containing Oxidized Porphyrinogens and C-C-Coupled Porphyrinogens from Alkali Cation- and Transition Metal-meso-Octaethylporphyrinogen Complexes  
AU Crescenzi, Raffaella; Solari, Euro; Floriani, Carlo; Chiesi-Villa, Angiola; Rizzoli, Corrado

CS Institut de Chimie Minerale et Analytique BCH, Universite de Lausanne, Lausanne, CH-1015, Switz.

SO Journal of the American Chemical Society (1999), 121(8), 1695-1706

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 26, 67, 75

AB This report deals with the different transition metal- and alkali cation-assisted oxidn. pathways of the meso-octaethylporphyrinogen tetraanion [Et8N4]4-. The two-electron oxidn. of [Et8N4Mn{Na(THF)2}2], 4, with Cp2FeBPh4 led to the corresponding monocyclopropane deriv. [Et8N4(.DELTA.)Mn], 6, [.DELTA. = cyclopropane], while the 1-electron oxidn. with CuCl2 or O2 led to the Mn(III)-porphyrinogen [Et8N4Mn][Li(THF)4], 5, which can be further oxidized by an excess of CuCl2 to [Et8N4(.DELTA.)2Mn-Cl]+[Cu9Cl11]0.5, 7. The formation of 7 does not follow the expected sequence Mn(II) .fwdarw. Mn(III) .fwdarw. Mn(II)-monocyclopropane .fwdarw. Mn(II)-biscyclopropane-porphyrinogen. In the case of Fe(II)-porphyrinogen, [Et8N4Fe{Li(THF)2}2], 9, the oxidn. led in a preliminary stage to the Fe(III) deriv. [Et8N4Fe][Li(THF)4], 10, then to the metalated form of the biscyclopropane-porphyrinogen [Et8N4(.DELTA.)2Fe-Cl][.mu.-Cu4Cl5], 11. The supposed stabilization of the biscyclopropane by the Cu(I) cluster was ruled out by carrying the oxidn. of [Cy4N4Fe{Li(THF)2}2] to [Cy4N4(.DELTA.)2Fe-Cl][Cu2Cl4], 14. The stepwise oxidn. of [Et8N4M(THF)4] [M = Li, 1; M = Na, 2] with Cp2FeBPh4 led to [Et8N4(.DELTA.)Li2THF2], 15, [Et8N4(.DELTA.)Li]BPh4, 16, and [Et8N4(.DELTA.)Na]BPh4, 17. The reaction of 1 with 16 leading to 15 showed how the C-C moiety in cyclopropane can be engaged in an intermol. electron transfer. The reaction of 17 with 18-crown-6 allowed the release of biscyclopropane-porphyrinogen [Et8N4(.DELTA.)2]. Particularly interesting is the thermal \*\*\*rearrangement\*\*\* of 15 occurring via intra- and intermol. electron transfers with the transposition of the C-C bond of the cyclopropane to a C-C bridge across the .beta. position of two adjacent pyrroles. In the case of metals, such as Ni(II), which do not undergo oxidn. state changes, the primary oxidn. product of a metalla-meso-octaalkylporphyrinogen is the monocyclopropane deriv., which reacting with the starting material \*\*\*masks\*\*\* an overall 1-electron oxidn. In fact, the reaction of [Et8N4Ni{Li(THF)2}2], 20, with 2 equiv of Cp2FeBPh4 led to the expected [Et8N4(.DELTA.)Ni], 21, while the reaction of 20 with 1 equiv of Cp2FeBPh4 led to the dimer [(beta.-beta.)(Et8N4)2Ni2], 22, which forms equally well from the reaction of 20 and 21. Complex 22 is a quite unique metallaporphyrinogen dimer, where the two monomeric units are joined via a C-C bond in the .beta. position of a pyrrole. Such a reaction shows that the methodol. can accede to oligomeric forms of metallaporphyrinogens. The crystal structures of 5, 7, 11, 14 and the thermally \*\*\*rearranged\*\*\* product of 15 were detd.

ST crystal structure transition metal porphyrinogen deriv complex; porphyrinogen deriv alkali metal porphyrinogen metal prepn; cyclopropane contg oxidized porphyrinogen metal complex prepn; mechanism oxidn porphyrinogen alkali transition metal complex

IT Bond formation

(carbon-carbon; during oxidn. of alkali metal complexes with octaalkylporphyrinogen)

IT Oxidation

(mechanism; of alkali metal complexes with octaalkylporphyrinogen with intra- and intermol. C-C bond formation)

- IT Crystal structure  
Molecular structure  
NMR (nuclear magnetic resonance)  
(of alkali metal/transition metal complexes with porphyrinogen derivs.)
- IT 148420-63-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. for prepn. of transition metal complexes of cyclopropane contg. porphyrinogens)
- IT 156025-36-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. with/without dimerization)
- IT 156025-37-5P 221096-90-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and NMR)
- IT 221027-97-0P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and NMR and crystal structure)
- IT 221027-94-7P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and NMR and demetalation)
- IT 221027-81-2P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and crystal structure)
- IT 221027-68-5P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and crystal structure and oxidn.)
- IT 221027-73-2P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and crystal structure and reaction with bipyridine)
- IT 221027-84-5P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and crystal structure of)
- IT 139376-49-1P 139376-54-8P 221027-65-2P 221027-87-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and oxidn.)
- IT 221027-60-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and oxidn. for prepn. of transition metal complexes of cyclopropane contg. porphyrinogens)
- IT 35320-70-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction with butyllithium)
- IT 221027-79-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction with copper chloride)
- IT 156025-44-4P 221027-63-0P 221027-70-9P 221027-75-4P 221028-01-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)
- IT 108-94-1, Cyclohexanone, reactions 109-97-7, Pyrrole  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for prepn. of iron complex of cyclohexyl-contg. porphyrinogens)
- IT 12562-70-8 12562-71-9 22393-36-8, (2,2'-Bipyridine)dichlorocopper  
216297-47-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for prepn. of transition metal complexes of cyclopropane contg. porphyrinogens)
- IT 135388-37-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with sodium)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 32 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:505434 CAPLUS

DN 129:92521

ED Entered STN: 15 Aug 1998

TI Photoactivatable Cross-Linked Polyacrylamide for the Site-Selective Immobilization of Antigens and Antibodies

AU Sanford, Melanie S.; Charles, Paul T.; Commisso, Sarah M.; Roberts, Jenna C.; Conrad, David W.

CS Center for Biomolecular Science and Engineering, Naval Research Laboratory, Washington, DC, 20375-5348, USA

SO Chemistry of Materials (1998), 10(6), 1510-1520  
CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

CC 9-16 (Biochemical Methods)

AB This paper describes the synthesis, characterization, and photochem. behavior of a new light-activated material for the photoimmobilization of antigens. The material is a deriv. of cross-linked polyacrylamide that incorporates photoactive o-nitrobenzyl carbamates. When irradiated, the polymer undergoes a photochem. \*\*\*rearrangement\*\*\* to produce primary amines that can be used as mol. attachment sites. We monitored the photoconversion of thin (1-2 .mu.m) polymer films that were deposited on silicon wafers or fused silica substrates using FT IR spectroscopy and UV-vis spectroscopy. To produce patterned polymer-modified substrates, we irradiated the material using a photolithog. \*\*\*mask\*\*\*. This process



yielded 10-.mu.m lines of photogenerated amines, to which an amine-reactive antigen (2,4,6-trinitrobenzenesulfonic acid) was covalently bound. When we used this antigen-patterned substrate in a competitive fluorescence immunoassay contg. tetramethylrhodamine-labeled anti-2,4-dinitrophenyl antibodies and 2,4-dinitrophenol, concns. of 2,4-dinitrophenol as low as 2.3 .mu.g/mL were detectable.

ST photoactivatable crosslinked polyacrylamide immobilization antigen antibody  
IT Immunoassay  
(fluorescence; photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT Immobilization, biochemical  
(photo-; photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT Antibodies  
Antigens  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT 51-28-5, 2,4-Dinitrophenol, analysis 2508-19-2, 2,4,6-Trinitrobenzenesulfonic acid  
RL: ANT (Analyte); ANST (Analytical study)  
(photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT 9003-05-8D, Polyacrylamide, crosslinked 70281-37-7, Tetramethylrhodamine  
RL: NUU (Other use, unclassified); USES (Uses)  
(photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT 612-25-9 1476-23-9, Allyl isocyanate 96839-34-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)  
IT 184533-05-9P 184533-06-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(photoactivatable cross-linked polyacrylamide for site-selective immobilization of antigens and antibodies)

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L19 ANSWER 33 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:795719 CAPLUS

DN 128:124445

ED Entered STN: 20 Dec 1997

TI NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors

AU Kashuba, V. I.; Gizatullin, R. Z.; Protopopov, A.I.; Allikmets, R.; Korolev, S.; Li, J.; Boldog, F.; Tory, K.; Zabarovska, V.; Marcsek, Z.; Sumegi, J.; Klein, G.; Zabarovsky, E. R.; Kisselev, L.

CS Doktorsringen 13, Microbiology and Tumor Biology Center, Karolinska Institute, Stockholm 17177, Swed.

SO FEBS Letters (1997), 419(2,3), 181-185  
CODEN: FEBLAL; ISSN: 0014-5793

PB Elsevier Science B.V.

DT Journal

LA English

CC 3-4 (Biochemical Genetics)

Section cross-reference(s): 14

AB By applying the 'recognition \*\*\*mask\*\*\*' strategy to 300 mammalian sequences contg. NotI sites we demonstrated that 5' ends of genes are highly enriched in NotI sites. A NotI linking clone NL2-252 (D3S1678) contg. transferrin receptor (TFRC) gene was used as an initial point for chromosomal jumping. One of the jumping clones, J21-045 traverses 210 kbp and links NL2-252 to NL26 (D3S1632), a NotI linking clone contg. highly polymorphic sequences. The TFRC gene was mapped to 3q29, close to the telomeric marker D3S2344, by linkage anal., a panel of hybrid cell lines, GeneBridge 4 panel and FISH. Clone NLM-007 (D3S4302) was found to contain ras-homologous gene RAB7. By FISH and a panel of hybrid cell lines this gene was mapped to 3q21. This region is of particular interest due to frequent \*\*\*rearrangements\*\*\* in different types of leukemia. Clone L2-081 (D3S4283) contg. new member of ubiquitin-specific proteases (HAUSP gene) was localized in 3p21 inspiring further investigation of involvement of this gene in development of lung and renal carcinomas.

ST mapping TFRC RAB7 HAUSP gene human; NotI clones human chromosome 3 leukemia; tumor leukemia gene human chromosome 3

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)

(HAUSP; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Genetic mapping  
Leukemia

(NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)

(RAB7; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)

(TFRC; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Lung, neoplasm

(carcinoma; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Chromosome

(human 3, 3p21, ubiquitin-specific proteases (HAUSP gene) was localized in 3p21; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Chromosome

(human 3, 3q2, ras-homologous gene RAB7 was mapped to 3q21; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Chromosome

(human 3, 3q29, TFRC gene was mapped to 3q29, close to the telomeric marker D3S2344; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Recombination, genetic

( \*\*\*rearrangement\*\*\* ; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Kidney, neoplasm

(renal cell carcinoma; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT Transferrin receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(transferrin receptor TFRC gene was mapped to 3q29, close to telomeric marker D3S2344; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT 103780-20-7, Restriction endonuclease NotI

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

IT 9001-92-7, Protease

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(Ubiquitin-specific, ubiquitin-specific proteases (HAUSP gene) was localized in 3p21; NotI linking/jumping clones of human chromosome 3: mapping of the TFRC, RAB7 and HAUSP genes to regions \*\*\*rearranged\*\*\* in leukemia and deleted in solid tumors)

L19 ANSWER 34 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:669523 CAPLUS

DN 127:324219

ED Entered STN: 22 Oct 1997

TI Simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\* : CrFx

AU Kim, Eunah; Hong, Seungbum; Kim, Kyong-Sub; Jiang, Zhong-Tao; Kim, Dae Weon; Lim, Sungchul; Woo, Sang-Gyun; Koh, Young-Bum; No, Kwangsoo

CS Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Taejon, S. Korea

SO Applied Optics (1997), 36(28), 7247-7256  
 CODEN: APOPAI; ISSN: 0003-6935  
 PB Optical Society of America  
 DT Journal  
 LA English  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 74  
 AB To acquire the required resoln. for 248- and 193-nm lithog., a study of attenuated phase-shifting \*\*\*mask\*\*\* (Att-PSM) technol. is in progress. The authors performed a simulation study using a matrix method to calc. relative transmittance and the amt. of phase shift of light through the PSM. However, the av. film compn. changed with deposition time. Accordingly, optical constns. are a strong function of film thickness. Therefore the authors \*\*\*rearranged\*\*\* the relation between deposition parameters (e.g., deposition time or gas flow rate ratio) and optical constns. (e.g., refractive index and extinction coeff.) to ext. the empirical formula for the optical constns. with respect to film compn. To verify the authors' simulation study, the authors fabricated a phase shifter based on the authors' simulation result, which has a transmittance of 8.3% and a phase shift of 179.5.degree.. Consequently, the authors obtained a reliable optimum condition for the deep-UV Att-PSM.  
 ST attenuated phase shifting \*\*\*mask\*\*\* chromium fluoride; lithog  
 IT \*\*\*mask\*\*\* optical property  
 IT \*\*\*Photomasks\*\*\* (lithographic \*\*\*masks\*\*\* )  
 (phase-shifting; simulation and fabrication of attenuated  
 phase-shifting \*\*\*masks\*\*\* from CrFx)  
 IT Optical absorption  
 Optical properties  
 Refractive index  
 Simulation and Modeling, physicochemical  
 Thickness  
 (simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\*  
 from CrFx)  
 IT 11113-56-7, Chromium fluoride  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
 (simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\*  
 from CrFx)  
 IT 7440-21-3, Silicon, uses 7440-37-1, Argon, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\*  
 from CrFx)  
 IT 7440-47-3, Chromium, processes  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\*  
 from CrFx)  
 IT 75-73-0, Tetrafluoromethane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (simulation and fabrication of attenuated phase-shifting \*\*\*masks\*\*\*  
 from CrFx)  
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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 L19 ANSWER 35 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1997:468477 CAPLUS  
 DN 127:186369  
 ED Entered STN: 26 Jul 1997

TI In vivo analyses of upstream promoter sequence elements in the 5 S rRNA  
 gene from *Saccharomyces cerevisiae*  
 AU Lee, Yoon; Wong, William M.; Guyer, David; Erkin, Alexander M.; Nazar,  
 Ross N.  
 CS Department Molecular biology Genetics, University Guelph, Guelph, ON, N1G  
 2W1, Can.  
 SO Journal of Molecular Biology (1997), 269(5), 676-683  
 CODEN: JMOBAK; ISSN: 0022-2836  
 PB Academic  
 DT Journal  
 LA English  
 CC 3-3 (Biochemical Genetics)  
 Section cross-reference(s): 10  
 AB Upstream promoter elements of the *Saccharomyces cerevisiae* 5 S rRNA gene  
 have been characterized by genomic DNase I "footprinting" and by in vivo  
 mutational analyses using base substitutions and deletions. A high copy  
 shuttle-vector was used to efficiently express the mutant 5 S rRNA genes  
 in vivo and a structural mutation in the 5 S rRNA, which was previously  
 shown to be functionally neutral but easily detected by gel  
 electrophoresis, allowed for an accurate measure of gene expression. The  
 results provide direct evidence for upstream regulatory elements which  
 confirms a start site element (sse) from -1 to -8 and identifies a new  
 independent upstream promoter element (upe) centered from about -17 to  
 -20. In contrast to previous reports with reconstituted systems, both  
 elements dramatically affect the efficiency of gene expression and suggest  
 that the satd. conditions which are used in reconstituted studies  
 \*\*\*mask\*\*\* sequence dependence; a dependency that could be physiol.  
 significant and play a role in the regulation of 5 S rRNA expression. The  
 footprint analyses support an extended region of protein interaction as  
 recently obsd. in reconstituted systems but again provide evidence of  
 significant structural \*\*\*rearrangements\*\*\* when the upstream sequence  
 is changed.  
 ST promoter sequence element *Saccharomyces* 5S rRNA  
 IT rRNA  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (5 S; upstream promoter sequence elements in 5 S rRNA gene from  
*Saccharomyces cerevisiae*)  
 IT Gene, microbial  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
 (Biological study); PROC (Process)  
 (5S rRNA; upstream promoter sequence elements in 5 S rRNA gene from  
*Saccharomyces cerevisiae*)  
 IT Genetic element  
 RL: BPR (Biological process); BSU (Biological study, unclassified); PRP  
 (Properties); BIOL (Biological study); PROC (Process)  
 (URE (upstream regulatory element), -17 to -20; upstream promoter  
 sequence elements in 5 S rRNA gene from *Saccharomyces cerevisiae*)  
 IT Genetic element  
 RL: BPR (Biological process); BSU (Biological study, unclassified); PRP  
 (Properties); BIOL (Biological study); PROC (Process)  
 (start site element (sse); -1 to -8; upstream promoter sequence  
 elements in 5 S rRNA gene from *Saccharomyces cerevisiae*)  
 IT DNA sequences  
*Saccharomyces cerevisiae*  
 Transcriptional regulation  
 (upstream promoter sequence elements in 5 S rRNA gene from  
*Saccharomyces cerevisiae*)  
 IT Promoter (genetic element)  
 RL: BPR (Biological process); BSU (Biological study, unclassified); PRP  
 (Properties); BIOL (Biological study); PROC (Process)  
 (upstream promoter sequence elements in 5 S rRNA gene from  
*Saccharomyces cerevisiae*)  
 IT 194304-75-1  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (nucleotide sequence -40 to +5 contg. UPE [-17 to -20] and SSE [-1 to  
 -8]; upstream promoter sequence elements in 5 S rRNA gene from  
*Saccharomyces cerevisiae*)  
 RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L19 ANSWER 36 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1996:668814 CAPLUS  
DN 126:52723  
ED Entered STN: 13 Nov 1996  
TI Photogenerated base in polymer imaging and curing: novel imaging material  
based on an amine-catalyzed isomerization process  
AU Niu, Q. J.; Urankar, E. J.; Frechet, J. M.  
CS Dep. Chem., Cornell Univ., Ithaca, NY, USA  
SO Report (1996), Order No. AD-A310 779/4GAR, 4 pp. Avail.: NTIS  
From: Gov. Rep. Announce. Index (U. S.) 1996, 96(22), Abstr. No. 22-00,413  
DT Report  
LA English  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
AB The use of base photogenerated in situ within a polymer coating affords  
attractive possibilities for the imaging or curing or reactive polymeric  
materials. In the case of resists, photogenerated base may provide access  
to materials that are more resistant to airborne contaminants than the  
chem. amplified resists currently available com. today. We have designed  
a family of novel copolymers contg. benzisoxazole pendant groups that  
\*\*\*rearrange\*\*\* to cyanophenols in the presence of a catalytic amt. of  
amine. The \*\*\*rearrangement\*\*\* also occurs thermally at elevated  
temps. and may be easily followed by DSC. Films of the  
benzisoxazole-substituted copolymers contg. a small amt. of photogenerated  
base may be imaged to afford pos.-tone images of the \*\*\*mask\*\*\* as the  
\*\*\*rearranged\*\*\* polymer is more sol. in aq. base than the starting  
copolymer. At the present time the sensitivity of this resist is  
relatively low (ca. 100 mJ/sq cm), but this may be optimized.  
ST photogenerated amine catalyzed isomerization photoresist photoimaging;  
polymer benzisoxazole group photoresist amine photogenerator  
IT Photoimaging materials

Photoresists

(novel imaging material based on photogeneration of amine catalyst and isomerization of benzisoxazole-substituted copolymers)

L19 ANSWER 37 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1996:416466 CAPLUS  
ED Entered STN: 16 Jul 1996  
TI Photogenerated base in polymer imaging and curing: Novel imaging material based on an amine-catalyzed isomerization process.  
AU Niu, Q. Jason; Urankar, Edward J.; Frechet, Jean M. J.  
CS Baker Laboratory, Cornell University, Ithaca, NY, 14853-1301, USA  
SO Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29 (1996), PMSE-271 Publisher: American Chemical Society, Washington, D. C. CODEN: 63BFAF  
DT Conference; Meeting Abstract  
LA English  
AB The use of base photogenerated in situ within a polymer coating affords attractive possibilities for the imaging or curing or reactive polymeric materials. In the case of resists, photogenerated base may provide access to materials that are more resistant to airborne contaminants than the chem. amplified resists currently available com. today [1]. We have designed a family of novel copolymers contg. benzisoxazole pendant groups that \*\*\*rearrange\*\*\* to cyanophenols in the presence of a catalytic amt. of amine. The \*\*\*rearrangement\*\*\* also occurs thermally at elevated temps. and may be easily followed by DSC. Films of the benzisoxazole-substituted copolymers contg. a small amt. of photogenerated base may be imaged to afford pos.-tone images of the \*\*\*mask\*\*\* as the \*\*\*rearranged\*\*\* polymer is more sol. in aq. base than the starting copolymer. At the present time the sensitivity of this resist is relatively low (ca. 100mJ/cm2), but this may be optimized.

L19 ANSWER 38 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1996:59674 CAPLUS  
DN 124:166910  
ED Entered STN: 30 Jan 1996  
TI Complementation analyses for 45 mutations encompassing the pink-eyed dilution (p) locus of the mouse  
AU Russell, Liane B.; Montgomery, Clyde S.; Cacheiro, N. L. A.; Johnson, Dabney K.  
CS Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN, 37831-8077, USA  
SO Genetics (1995), 141(4), 1547-62  
CODEN: GENTAE; ISSN: 0016-6731  
PB Genetics Society of America  
DT Journal  
LA English  
CC 3-3 (Biochemical Genetics)  
Section cross-reference(s): 13  
AB The homozygous and heterozygous phenotypes are described and characterized for 45 new pink-eyed diln. (p) locus mutations, most of them radiation-induced, that affect survival at various stages of mouse development. Cytogenetically detectable aberrations were found in three of the new p mutations (large deletion, inversion, translocation), with band 7C involved in each case. The complementation map developed from the study of 810 types of compd. heterozygotes identifies five functional units: jls and jlm (two distinct juvenile-fitness functions, the latter assocd. with neuromuscular defects), pl-1 and pl-2 (assocd. with early-postimplantation and preimplantation death, resp.), and nl [neonatal lethality assocd. with cleft palate (the frequency of rare "escapers" from this defect varied with the genotype)]. Orientation of these units relative to genetic markers is as follows: centromere, Gas-2, pl-1, jls, jlm p, nl (equatable to cp1 = Gabrb3); pl-2 probably resides in the c-deletion complex. Pl-1 does not \*\*\*mask\*\*\* preimplantation lethals between Gas2 and p; and no genes affecting survival are located between p and cp1. The alleles specifying mottling or darker pigment (generically, pm and px, resp.) probably do not represent deletions of p-coding sequences but could be small \*\*\*rearrangements\*\*\* involving proximal regulatory elements.  
ST gene pink eyed diln mapping mouse; chromosome 7 mouse pink eyed diln  
IT Development, mammalian  
Genetic mapping  
Mouse

(complementation analyses for 45 mutations encompassing pink-eyed diln.

(p) locus of mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(jlm, juvenile-fitness function assocd. with neuromuscular system;  
complementation analyses for 45 mutations encompassing pink-eyed diln.

(p) locus of mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(jls, juvenile-fitness function; complementation analyses for 45  
mutations encompassing pink-eyed diln. (p) locus of mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(nl, assocd. with neonate survival and cleft plate; complementation  
analyses for 45 mutations encompassing pink-eyed diln. (p) locus of  
mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(pl-1, assocd. with early-postimplantation survival; complementation  
analyses for 45 mutations encompassing pink-eyed diln. (p) locus of  
mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(pl-2, assocd. with preimplantation survival; complementation analyses  
for 45 mutations encompassing pink-eyed diln. (p) locus of mouse)

IT Chromosome

(mouse 7, complementation analyses for 45 mutations encompassing  
pink-eyed diln. (p) locus of mouse)

IT Gene, animal

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(p, pink-eyed diln.; complementation analyses for 45 mutations  
encompassing pink-eyed diln. (p) locus of mouse)

L19 ANSWER 39 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:988948 CAPLUS

DN 124:51115

ED Entered STN: 19 Dec 1995

TI Complex gangliosides affect GD3 accessibility to antibody in developing  
neuronal cells

AU Allende, Maria L.; Panzetta, Pedro

CS Centro de Investigaciones en Quimica Biologica de Cordoba. CIQUIBIC,  
UNC-CONICET, Departamento de Quimica Biologica, Facultad de Ciencias  
Quimicas, Universidad Nacional de Cordoba, Cordoba, 5016, Argent.

SO Developmental Brain Research (1995), 90(1,2), 102-10

CODEN: DBRRDB; ISSN: 0165-3806

PB Elsevier

DT Journal

LA English

CC 12-3 (Nonmammalian Biochemistry)

AB Ganglioside expression of embryonic chick retina cells developed in vitro  
was analyzed by indirect immunofluorescence. Immature neurons were GD3  
pos. cells and the labeling was chiefly distributed all over their cell  
membrane. Mature neurons became GD3 neg. and expressed complex  
gangliosides of the a- and b-pathways; nevertheless, the content of GD3  
accounted for .apprx.40% of the total gangliosides in these cells.  
Neuraminidase hydrolysis pointed out that GD3 was located in membrane of  
differentiated cells. The frequency of cells with the GD3 immunostain  
localized in restricted areas of membrane of undifferentiated neurons  
increased significantly after adding a mixt. of bovine brain gangliosides  
(largely complex gangliosides). Antibody binding to immobilized GD3  
showed a dose-dependent inhibition by adding a mixt. of bovine brain  
gangliosides, GM1, GD1a or asialo-GM1. Glycosphingolipids with shorter  
oligosaccharide chains, as cerebroside or sulfatides, did not affect this  
binding. Apparently, concomitant with the accretion of content of complex  
gangliosides, a \*\*\*rearrangement\*\*\* in the membrane would occur, which  
progressively \*\*\*masks\*\*\* GD3 to its antibody. This



\*\*\*rearrangement\*\*\* might affect putative ganglioside functions involved in neuronal differentiation.

ST ganglioside GD3 nerve development

IT Cell membrane  
Development, nonmammalian  
Embryo  
Nerve  
(complex gangliosides affect ganglioside GD3 accessibility to antibody in developing neuronal cells)

IT Gangliosides  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(complex gangliosides affect ganglioside GD3 accessibility to antibody in developing neuronal cells)

IT Eye  
(retina, complex gangliosides affect ganglioside GD3 accessibility to antibody in developing neuronal cells)

IT 62010-37-1, Ganglioside GD3  
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)  
(complex gangliosides affect ganglioside GD3 accessibility to antibody in developing neuronal cells)

IT 12707-58-3, Ganglioside GD1a 19553-76-5, Ganglioside GD1b 37758-47-7, Ganglioside GM1 54827-14-4, Ganglioside GM3 59247-13-1, Ganglioside GT1b  
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)  
(complex gangliosides affect ganglioside GD3 accessibility to antibody in developing neuronal cells)

L19 ANSWER 40 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:131230 CAPLUS

DN 122:80951

ED Entered STN: 08 Nov 1994

TI Efficient Route to the Nine-Membered Cyclic Diyne System: Tuning of the Extremely Facile Cope \*\*\*Rearrangement\*\*\* of 1,5-Diyne

AU Iida, Kyoichiro; Hirama, Masahiro

CS Faculty of Science, Tohoku University, Sendai, 980-77, Japan

SO Journal of the American Chemical Society (1994), 116(22), 10310-11  
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

CC 26-6 (Biomolecules and Their Synthetic Analogs)

OS CASREACT 122:80951

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Very recently, a chromophore of both the potent antitumor, antibiotic chromoprotein C-1027 and kedarcidin has been shown to possess a highly strained bicyclo[7.3.0]dodecadiyne core structure. A strategy which \*\*\*masks\*\*\* the 3-ene-1,5-diyne system I as a 1,5-diyne II (X = apo-protein) is a fascinating approach from the perspective of the design and synthesis of related DNA-cleaving mols. We developed a general and efficient route to the 9-membered cyclic diyne system through an intramol. acetylide addn. mediated by LiN(TMS)2/CeCl3 from a precursor, such as III (R = TBS), which possess a conformationally nonrigid C4-C5 single bond. Furthermore, we found that the cyclic 1,5-diyne system, such as in bicyclo[7.3.0]dodeca-2,6-diyn-11-ene IV (M = Ce3+, Li+), undergoes an extremely facile Cope \*\*\*rearrangement\*\*\* below room temp., while the isomeric bicyclo[7.3.0]dodeca-2,6-diyn-12-enes V and VI do not. Thus, the Cope \*\*\*rearrangement\*\*\* of the 9-membered cyclic 1,5-diyne system can be suppressed by small structural changes, such as the shift of a double bond.

ST Cope \*\*\*rearrangement\*\*\* cyclic diyne; antibiotic bicyclododecadiyne system synthesis; cyclononenediyne system synthesis

IT Cope \*\*\*rearrangement\*\*\*  
Ring closure and formation

(synthesis of nine-membered cyclic diyne systems via intramol.  
acetylide addn. and suppression of 1,5-diyne Cope \*\*\*rearrangement\*\*\*  
)

- IT Ring closure and formation  
(stereoselective, synthesis of nine-membered cyclic diyne systems via  
intramol. acetylide addn. and suppression of 1,5-diyne Cope  
\*\*\*rearrangement\*\*\* )
- IT 161697-42-3 161697-43-4 161697-44-5 161897-37-6  
RL: PRP (Properties)  
(mol. mechanics calcn.; synthesis of nine-membered cyclic diyne systems  
via intramol. acetylide addn. and suppression of 1,5-diyne Cope  
\*\*\*rearrangement\*\*\* )
- IT 4039-32-1, Lithium hexamethyldisilazide 7790-86-5, Cerium trichloride  
160246-39-9 160246-40-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis of nine-membered cyclic diyne systems via intramol.  
acetylide addn. and suppression of 1,5-diyne Cope \*\*\*rearrangement\*\*\*  
)
- IT 160246-41-3P 160246-42-4P 160246-43-5P 160246-45-7P 160246-46-8P  
160246-47-9P 160335-09-1P 160335-10-4P 160335-11-5P 160335-12-6P  
161697-36-5P 161697-37-6P 161697-38-7P 161697-39-8P 161697-40-1P  
161697-41-2P 161755-43-7P 161755-44-8P 161755-45-9P 161755-46-0P  
161755-47-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(synthesis of nine-membered cyclic diyne systems via intramol.  
acetylide addn. and suppression of 1,5-diyne Cope \*\*\*rearrangement\*\*\*  
)
- IT 160246-44-6P 160246-48-0P 160335-13-7P 160335-14-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of nine-membered cyclic diyne systems via intramol.  
acetylide addn. and suppression of 1,5-diyne Cope \*\*\*rearrangement\*\*\*  
)

L19 ANSWER 41 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:448809 CAPLUS

DN 119:48809

ED Entered STN: 07 Aug 1993

TI Migratory tendencies for 1,5-sigmatropic shifts in the 1,3-dimethylindene  
system

AU Jones, David W.; Marmon, Robert J.

CS Sch. Chem., Univ. Leeds, Leeds, LS2 9JT, UK

SO Journal of the Chemical Society, Perkin Transactions 1: Organic and  
Bio-Organic Chemistry (1972-1999) (1993), (6), 681-90  
CODEN: JCPRB4; ISSN: 0300-922X

DT Journal

LA English

CC 22-6 (Physical Organic Chemistry)

AB The tendency for several groups X to undergo a 1,5-sigmatropic shift in  
which 1-X-1,3-dimethylindene is converted into a 2H-indene intermediate  
has been tested. Several of the groups studied are based on the  
carbon-nitrogen double bond [HC:NBut, HC:NPh, HC:NNMe2, 2-pyridyl, and  
1-methylpyridin-2-yl]; some were expected to be fast migrators [HC:CHNO2,  
COCOPh, COSPh, C(S)NMe2] and others (1- and 2-naphthyl, 2-furyl,  
2-thienyl, and 1-propylpyrrol-2-yl) showed a variation in arom. character.  
The conjugative electron-withdrawing ability of a group and the  
availability of a low-energy vacant orbital are linked to good migratory  
ability but steric, conformational, and secondary orbital interaction  
effects can \*\*\*mask\*\*\* the effect, e.g. the 1- and 2-naphthyl groups  
migrate slowly despite very low .pi.\* energies. All the arom. groups  
migrate slowly and at similar rates. The results provide further evidence  
against biradical intermediates or transition states in these

\*\*\*rearrangements\*\*\*  
ST sigmatropic shift dimethylindene; indene dimethyl sigmatropic  
\*\*\*rearrangement\*\*\*

IT Functional groups  
(migratory tendencies of, for sigmatropic shifts in dimethylindene  
derivs.)

IT Kinetics of \*\*\*rearrangement\*\*\*  
(sigmatropic, of dimethylindenes)

IT \*\*\*Rearrangement\*\*\*  
(sigmatropic, of dimethylindenes)

IT 18742-02-4, 2-(2-Bromoethyl)-1,3-dioxolane 24157-02-6,  
1-Bromo-4,4-dimethoxybutane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Grignard reaction of, with dimethylindenecarboxaldehyde)

IT 17668-60-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Wittig reaction of, with dimethylindenecarboxaldehyde)

IT 90-11-9, 1-Bromonaphthalene 580-13-2, 2-Bromonaphthalene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(arylation by, of lithiated dimethylindene)

IT 6072-57-7  
RL: PROC (Process)  
(conversion of, to methylindenone)

IT 148648-69-5P 148648-85-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and attempted \*\*\*rearrangement\*\*\* of)

IT 148648-80-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to (benzoylcarbonyl)dimethylindene)

IT 148648-98-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to dicarbonyl deriv.)

IT 148648-95-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to dimethylnaphthylindene)

IT 148648-93-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to dimethylpyridylindene)

IT 148649-01-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to dimethylthienylindene)

IT 148649-00-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and conversion of, to furyldimethylindene)

IT 148648-92-4P 148648-97-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and oxidn. of)

IT 148648-91-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and oximation of)

IT 148648-99-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reaction of, with propylamine)

IT 22303-81-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reactions of)

IT 71635-78-4P 148648-83-3P 148648-87-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and \*\*\*rearrangement\*\*\* of)

IT 148648-76-4P 148648-77-5P 148648-78-6P 148648-79-7P 148690-93-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and sigmatropic \*\*\*rearrangement\*\*\* of, kinetics and  
mechanism)

IT 148648-65-1P 148648-66-2P 148648-67-3P 148648-68-4P 148648-71-9P  
148648-72-0P 148648-73-1P 148648-74-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and sigmatropic \*\*\*rearrangement\*\*\* of, kinetics and  
mechanism of)

IT 148648-82-2P 148648-84-4P 148648-86-6P 148648-88-8P 148648-89-9P  
148648-90-2P 148648-94-6P 148648-96-8P 148649-02-9P 149411-80-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

IT 108-98-5, Thiophenol, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dimethylindenecarboxylic acid)  
 IT 148648-81-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with lithiated phenyldithiane)  
 IT 69382-87-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of)  
 IT 2177-48-2, 1,3-Dimethylindene  
 RL: PRP (Properties)  
 (sequential lithiation and arylation of)  
 IT 5425-44-5, 2-Phenyl-1,3-dithiane  
 RL: PRP (Properties)  
 (sequential lithiation and reaction of, with  
 (chloroformyl)dimethylindene)  
 IT 110-00-9, Furan 110-02-1, Thiophene  
 RL: PRP (Properties)  
 (sequential lithiation and reaction of, with methylindenone)  
 IT 57707-36-5 69009-36-5 69009-38-7 69009-52-5 74526-94-6  
 74526-99-1 148648-70-8 148648-75-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (sigmatropic \*\*\*rearrangement\*\*\* of, kinetics and mechanism of)

L19 ANSWER 42 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:115018 CAPLUS

DN 118:115018

ED Entered STN: 19 Mar 1993

TI Structural relaxation and magnetic properties of cobalt-rich amorphous wire

AU Gomez-Polo, C.; Vazquez, M.

CS Inst. Cienc. de Mater. (CSIC), Serrano 144, Madrid, 28006, Spain

SO Journal of Magnetism and Magnetic Materials (1993), 118(1-2), 86-92

CODEN: JMMMDC; ISSN: 0304-8853

DT Journal

LA English

CC 77-1 (Magnetic Phenomena)

Section cross-reference(s): 56

AB Thermal treatment in the presence of either a magnetic field or a magnetic field and applied tensile stress were carried out in a Co-rich nearly nonmagnetostrictive amorphous wire. Structural relaxation is followed by an evaluation of the induced magnetic anisotropy and changes in the satn. magnetostriction after treatment. The orientation of the easy axis of induced anisotropy depends on the annealing conditions. The magnetostriction is modified as structural relaxation proceeds, irresp. of the orientation of the induced preferred axes. This suggests that although the origin of the induced anisotropy (i.e. field-induced anisotropy) can be ascribed to the generation of atom pairs, the changes in magnetostriction are related to topol.-like at. \*\*\*rearrangements\*\*\*. Both mechanisms develop simultaneously so that overlapping effects can sometimes \*\*\*mask\*\*\* the origin of the changes in these quantities. Also, as in the case of Co-rich amorphous ribbons, the stress dependence of magnetostriction follows the law  $\lambda = \lambda_0 - \alpha \sigma$ , for as-cast and annealed wires.

ST cobalt alloy amorphous wire magnetism; magnetostriction cobalt alloy amorphous wire; structure relaxation cobalt alloy amorphous wire; anisotropy magnetic cobalt alloy amorphous wire

IT Wire  
 (cobalt-base alloy amorphous, magnetic properties and structural relaxation of)

IT Magnetic anisotropy  
 Magnetostriction  
 (of cobalt-rich alloy amorphous wire)

IT Metallic glasses  
 RL: PRP (Properties)  
 (cobalt alloy, magnetic properties and structural relaxation of wire of)

IT 106706-38-1  
 RL: PRP (Properties)  
 (magnetic properties and structural relaxation of amorphous wire of)

L19 ANSWER 43 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1992:601920 CAPLUS

DN 117:201920

ED Entered STN: 15 Nov 1992  
TI Water-soluble photosensitive compounds, photoresistant compositions  
containing them, and patterning of such photoresists  
IN Hayashi, Nobuaki; Ito, Masahito; Morishita, Hajime; Nonogaki, Saburo;  
Odaka, Yoshiyuki; Miura, Seiji; Nishizawa, Shoko  
PA Hitachi, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G03F007-038  
ICS G03F007-008; H01J009-227; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI JP 04026849 A2 19920130 JP 1990-131283 19900523  
PRAI JP 1990-131283 19900523

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
JP 04026849 ICM G03F007-038  
ICS G03F007-008; H01J009-227; H01L021-027  
IPCI G03F0007-038 [ICM,5]; G03F0007-008 [ICS,5];  
H01J0009-227 [ICS,5]; H01L0021-027 [ICS,5]

GI

/ Structure 6 in file .gra /

AB The title water-sol. photosensitive compds. (I) and (II) [Z = H, OH; M =  
Na, K, NH4] are obtained by condensing an acetophenone  
structure-possessing polymer with an arom. aldehyde possessing an azide  
group and an aliph. aldehyde (e.g. MeCHO, crotonaldehyde). The title  
photoresist compn. comprises the above water-sol. photosensitive compd.  
and a water-sol. polymer which reacts with the former to show reciprocity  
low failure. The title photoresist compn. coated on a substrate is  
patternwise exposed in the presence of O<sub>2</sub> and developed to produce a  
pattern in which the exposed areas produce a pattern smaller in area than  
the area of the openings in the \*\*\*photomask\*\*\*  
ST photoresist compn high sensitivity; black matrix CRT manuf; acetophenone  
polymer condensation product  
IT Cathode-ray tubes  
(color, black matrix, manuf. of, photoresist compn. for)  
IT Resists  
(photo-, contg. acetophenone polymer aldehyde condensation product)  
IT 24979-70-2D, p-Hydroxystyrene homopolymer, acetylated, \*\*\*Fries\*\*\*  
\*\*\*rearranged\*\*\*, condensation product with 4-azidobenzaldehyde-12-  
sulfonic acid salt and acetaldehyde 25231-54-3, Acrylamide-diacetone  
acrylamide copolymer 25300-64-5D, Maleic acid-styrene copolymer,  
acetylation product, condensation product with sodium potassium or  
ammonium 4-azidobenzaldehyde-2-sulfonate and acetaldehyde or croton  
aldehyde 55305-94-7D, 4-Azidobenzaldehyde-2-sulfonic acid sodium salt,  
condensation product with acetylated styrene polymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist compn. contg.)

L19 ANSWER 44 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1991:593992 CAPLUS  
DN 115:193992  
ED Entered STN: 01 Nov 1991  
TI New photoresists based on poly(trans-1,2-cyclohexylene diisocyanate)  
AU Zentel, Rudolf; Willson, C. Grant  
CS Almaden Res. Cent., IBM, San Jose, CA, 95120-6099, USA  
SO Makromolekulare Chemie, Rapid Communications (1991), 12(8), 513-16  
CODEN: MCRCD4; ISSN: 0173-2803  
DT Journal  
LA English

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB trans-1,2-Cyclohexylene diisocyanate, prepd. from the corresponding racemic acid by a Curtius \*\*\*rearrangement\*\*\* was transformed into poly(trans-1,2-cyclohexylene diisocyanate) (I) by anionic polymn. with NaCN. Polymer I is amorphous, forms transparent films from soln., and shows no glass transition temp. or other transitions up to its decompn. temp. of about 300.degree.. At this temp. it decomp. completely to volatile compds., as detd. by thermogravimetry. I was mixed with a triarylsulfonium salt as photoacid generator, dissolved in a mixt. of toluene and cyclohexanone, spin casted onto silica wafer and illuminated at 255 nm with a dose of 10 mJ/cm<sup>2</sup> through a \*\*\*mask\*\*\*. The acid created thereby strongly reduced the thermal stability of the polymer and enabled the development of the pattern by baking the polymer at 274.degree. for several minutes. At this temp. the illuminated parts of the sample decompd. and evapd. much more quickly than the non-illuminated parts, thereby creating a pos. image. Doses as low as 5 mJ/cm<sup>2</sup> were enough for pattern formation with a width of 2 .mu.m.

ST photoresist polycyclohexylene isocyanate

IT Resists  
(photo-, poly(cyclohexylene diisocyanate), with triarylsulfonium salt as photoacid generator)

IT 143-33-9, Sodium cyanide  
RL: USES (Uses)  
(in anionic polymn. of cyclohexylene diisocyanate)

IT 136474-39-0P, trans-1,2-Cyclohexylene diisocyanate  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and anionic polymn. of)

IT 36909-95-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with trimethylsilyl azide)

IT 136474-40-3P, Poly(trans-1,2-cyclohexylene diisocyanate)  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and testing of, as photoresist)

IT 4648-54-8, Trimethylsilyl azide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cyclohexylene diisocyanate)

L19 ANSWER 45 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:523643 CAPLUS

DN 113:123643

ED Entered STN: 29 Sep 1990

TI Lithography and spectroscopy of ultrathin Langmuir-Blodgett polymer films

AU Kuan, S. W.; Martin, P. S.; Kosbar, L. L.; Frank, C. W.; Pease, R. F.

CS Dep. Chem. Eng., Stanford Univ., Stanford, CA, USA

SO Report (1989), Order No. AD-A208970, 23 pp. Avail.: NTIS  
From: Gov. Rep. Announce. Index (U. S.) 1989, 89(20), Abstr. No. 953,208

DT Report

LA English

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 37

AB Ultrathin (0.9-15.3 nm) PMMA and (30-40 nm) novolak/diazoquinone films prepd. by the Langmuir-Blodgett technique have been explored as high-resoln. electron beam resists and photoresists, resp. One-eight micron lines-and spaces patterns have been achieved in PMMA using the Perkin Elmer MEBES I pattern generation system as the exposure tool. The etch resistance of PMMA films with thicknesses >4.5 nm is sufficient to allow patterning of Cr film suitable for \*\*\*photomask\*\*\* fabrication. One micron lines- and-spaces patterns have been fabricated by optical lithog. in 30 nm thick novolak/diazoquinone films, and etched into 50 nm of Cr. Monolayer PMMA films contg. 5 mol% pyrenedodecanoic acid (PDA) as a probe were prepd. by transfer to a quartz substrate at different surface pressures and characterized by fluorescence spectroscopy. The ratio of excimer to monomer emission intensity has a max. value at 10 dyn/cm, which is suggestive of a structural \*\*\*rearrangement\*\*\* occurring in the Langmuir film at the surface.

ST submicron lithog Langmuir Blodgett film; photoresist Langmuir Blodgett film; electron resist Langmuir Blodgett film; PMMA Langmuir Blodgett lithog; novolak diazoquinone Langmuir Blodgett lithog

IT Films  
(Langmuir-Blodgett, for submicron lithog.)

IT Resists  
(electron-beam, Langmuir-Blodgett polymer films for)

IT Phenolic resins, uses and miscellaneous  
RL: USES (Uses)  
(novolak, Langmuir Blodgett film contg., for submicron lithog.)

IT Resists  
(photo-, polymeric, Langmuir-Blodgett films of, for submicron lithog.)

IT Lithography  
(submicron, Langmuir-Blodgett polymer films for)

IT 9011-14-7, PMMA 53208-22-3  
RL: USES (Uses)  
(Langmuir Blodgett film contg., for submicron lithog.)

L19 ANSWER 46 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:45468 CAPLUS

DN 112:45468

ED Entered STN: 04 Feb 1990

TI Lithography and spectroscopy of ultrathin Langmuir-Blodgett polymer films

AU Kuan, S. W. J.; Martin, P. S.; Kosbar, L. L.; Frank, C. W.; Pease, R. F. W.

CS Dep. Chem. Eng., Stanford Univ., Stanford, CA, 94305, USA

SO ACS Symposium Series (1989), 412(Polym. Microlithogr.), 349-63  
CODEN: ACSMC8; ISSN: 0097-6156

DT Journal

LA English

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 36

AB Ultrathin (0.9 - 15.3 nm) PMMA and (30 - 40 nm) novolak/diazoquinone films prepd. by the Langmuir-Blodgett (LB) technique were studied as high-resoln. electron beam resists and photoresists, resp. One-eighth micron line-and-space patterns were achieved in PMMA using a Perkin Elmer MEBES I pattern generation system as the exposure tool. The etch resistance of PMMA films with thicknesses >4.5 nm was sufficient to allow patterning of Cr film suitable for \*\*\*photomask\*\*\* fabrication. One micron line-and-space patterns were fabricated by optical lithog. in 30 nm thick novolak/diazoquinone films and etched into 50 nm of Cr. Monolayer PMMA films contg. 5 mol% pyrenedodecanoic acid (PDA) as a probewere prepd. by transfer to a quartz substrate at different surface pressures and characterized by fluorescence spectroscopy. The ratio of excimer to monomer emission intensity has a max. value at .apprx.10 dyn/cm, which is suggestive of a structural \*\*\*rearrangement\*\*\* occurring in the Langmuir film at that surface pressure.

ST lithog spectroscopy Langmuir Blodgett polymer film; microlithog Langmuir Blodgett polymer film

IT Fluorescence  
(of ultrathin Langmuir-Blodgett polymer films)

IT Resists  
(electron-beam, polymeric, ultrathin Langmuir-Blodgett films as)

IT Resists  
(photo-, polymeric, ultrathin Langmuir-Blodgett films as)

IT Lithography  
(submicron, of ultrathin Langmuir-Blodgett polymer films)

IT 9011-14-7, PMMA  
RL: USES (Uses)  
(electron-beam resists from ultrathin Langmuir-Blodgett film of, for microlithog.)

IT 25086-36-6, M-Cresol-formaldehyde polymer 124448-76-6, Fairmount 1010  
RL: USES (Uses)  
(microlithog. photoresist ultrathin Langmuir-Blodgett film contg.)

L19 ANSWER 47 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:644034 CAPLUS

DN 111:244034

ED Entered STN: 23 Dec 1989

TI Polymer chain configurations in constrained geometries: ultrathin polymer films for microlithography

AU Kuan, S. W. J.; Martin, P. S.; Frank, C. W.; Pease, R. F. W.

CS Dep. Chem. Eng., Stanford Univ., Stanford, CA, 94305, USA

SO Proceedings of SPIE-The International Society for Optical Engineering

- DT Journal  
LA English  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35
- AB Ultrathin (0.9-15.3 nm) PMMA films prepd. by the Langmuir-Blodgett (LB) technique were explored as high-resoln. electron-beam resists. One-eighth micron lines-and-spaces patterns were achieved by using a Perkin Elmer MEBES I pattern generation system as the exposure tool. The etch resistance of films with thicknesses >4.5 nm is sufficient to allow patterning of Cr film suitable for \*\*\*photomask\*\*\* fabrication. Monolayer PMMA films contg. 5 mol% pyrenedodecanoic acid as a probe were prepd. by transfer to the substrate at different surface pressures and characterized by fluorescence spectroscopy. The ratio of excimer to monomer emission intensity has a max. value at .apprx.10 dyn/cm, which may be related to a structural \*\*\*rearrangement\*\*\* in the film. Intrinsic bilayer LB PMMA films prepd. at 1 and 19 dyn/cm were also examd. by transmission electron microscopy. The wrinkle-like surface topog. obsd. in the 19 dyn/cm sample and not in the 1 dyn/cm sample suggests that the structure of the LB PMMA film depends on the transfer pressure.
- ST microlithog ultrathin polymer chain configuration; electron resist ultrathin polymer chain configuration; PMMA resist ultrathin polymer chain configuration
- IT \*\*\*Photomasks\*\*\*  
(prodn. of, polymer chain configurations in constrained geometries of ultrathin polymer films for microlithog. in relation to)
- IT Resists  
(electron-beam, polymer chain configurations in constrained geometries of ultrathin films of PMMA, for microlithog.)
- IT 9011-14-7, PMMA  
RL: USES (Uses)  
(chain configurations in constrained geometries of ultrathin film of, for microlithog.)
- L19 ANSWER 48 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1987:487379 CAPLUS  
DN 107:87379  
ED Entered STN: 05 Sep 1987  
TI Laser light assisted deposition of thin films  
AU Yokoyama, Hiroyuki  
CS Opto-Electron. Res. Lab., NEC Corp., Kanagawa, 213, Japan  
SO Reza Kenkyu (1987), 15(2), 83-97  
CODEN: REKEDA; ISSN: 0387-0200
- DT Journal; General Review  
LA Japanese  
CC 75-0 (Crystallography and Liquid Crystals)  
Section cross-reference(s): 73, 76
- AB A review with 38 refs. Photoassisted chem. vapor deposition of metal films, and photoassisted epitaxy of semiconductor films are described with an emphasis on several important problems. Successful applications of laser induced metal deposition for repairing photolithog. \*\*\*masks\*\*\* pinhole defects and for circuit restructuring of semiconductor devices are demonstrated. Intrinsic problems are pointed out regarding micropattern formation by projection printing deposition using large cross-sectional laser light. A new approach that would enable the photolithographyless film patterning in large area is shown. Several studies on photoassisted epitaxy of semiconductors are discussed from the view point of epitaxy temp. lowering. After extg. the expected photoinduced effects, an expt. of photoassisted ZnS film deposition is described to clarify the surface adatom \*\*\*rearrangement\*\*\* effect which is essentially important for lowering the epitaxial growth temp.
- ST review laser deposition metal film; epitaxy semiconductor laser assisted review
- IT Laser radiation, chemical and physical effects  
(epitaxy and chem. vapor deposition of metals assisted by)
- IT Epitaxy  
(of semiconductors, laser-assisted)
- IT Metals, properties  
RL: PRP (Properties)  
(photoassisted chem. vapor deposition of)



IT Semiconductor materials  
(photoassisted epitaxy of)

IT 1314-98-3, Zinc sulfide, properties  
RL: PRP (Properties)  
(photoassisted epitaxial deposition of)

L19 ANSWER 49 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1984:631349 CAPLUS  
DN 101:231349  
ED Entered STN: 22 Dec 1984  
TI Study of the morphology and electrical properties of new and thermally aged biaxially oriented polypropylene films  
AU Couderc, D.; Crine, J. P.; Umemura, T.  
CS Inst. Rech. Hydro-Quebec, Varennes, QC, Can.  
SO IEE Conference Publication (1984), 239(Dielectr. Mater., Meas. Appl.), 128-31  
CODEN: IECPB4; ISSN: 0018-9405  
DT Journal  
LA English  
CC 37-5 (Plastics Manufacture and Processing)  
AB Biaxially oriented blown polypropylene [9003-07-0] film showed larger variation in elec. and phys. properties under thermal aging than did the tenter type film. Thermal aging induced morphol. and structural changes such as recrystn. and \*\*\*rearrangement\*\*\* of the amorphous phase and reorganization of the cryst. phase. The conduction is more likely governed by an ionic mechanism than by dipolar relaxation processes. The .beta., relaxation seems to have the same origin regardless of exptl. conditions, which may partially \*\*\*mask\*\*\* the effect of morphol. variations on the dielec. properties.  
ST polypropylene morphol aging elec property  
IT Polymer morphology  
(of polypropylene elec. insulation, elec. properties in relation to)  
IT Electric insulators and Dielectrics  
(polypropylene, elec. properties of, morphol. and aging effect on)  
IT 9003-07-0  
RL: USES (Uses)  
(elec. insulators, elec. properties of, morphol. and aging effect on)

L19 ANSWER 50 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1982:447069 CAPLUS  
DN 97:47069  
ED Entered STN: 12 May 1984  
TI Poly(N-alkyl-o-nitroamides). A new class of thermally stable, photosensitive polymers  
AU MacDonald, S. A.; Willson, C. G.  
CS Res. Lab., IBM, San Jose, CA, 95193, USA  
SO ACS Symposium Series (1982), 184(Polym. Mater. Electron. Appl.), 73-81  
CODEN: ACSMC8; ISSN: 0097-6156  
DT Journal  
LA English  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 37  
AB Poly(N-alkyl-o-nitroamides), a new class of photosensitive, thermally stable polymers contg. photolabile arom. amide linkages were prep'd. These polymers contain a photosensitive anilide in the backbone of the polymer and when exposed to UV light, they degrade in a manner that is analogous to the ortho-nitroanilides described by Patchornik (1973). This resist system can be utilized in lithog. because the photoinduced \*\*\*rearrangement\*\*\* not only reduces the mol. wt. of the polymer but also converts a hydrophobic disubstituted amide into a carboxylic acid. Thus, after exposure to light, the irradiated areas can be dissolved in a basic developer soln., leaving the unexposed regions intact. This chem. can be exploited to provide lithog. relief images for printing, etch \*\*\*masks\*\*\* for microcircuit fabrication, and as contrast media for optical information storage.  
ST polyalkylnitroamide photosensitive polymer resist; photoresist  
polyalkylnitroamide; etch \*\*\*mask\*\*\* polyalkylnitroamide; optical information storage polyalkylnitroamide; polyamide photosensitive polymer resist  
IT Lithographic plates  
(photosensitive compns. contg. thermally stable poly(alkyl nitroamides))

for)  
 IT \*\*\*Photomasks\*\*\*  
 (thermally stable poly(alkyl nitroamides) in fabrication of)  
 IT Electric circuits  
 (micro-, thermally stable poly(alkyl nitroamides) in fabrication of)  
 IT Resists  
 (photo-, poly(alkyl nitroamides) as thermally stable)  
 IT Information science  
 (storage and retrieval, thermally stable photosensitive poly(alkyl  
 nitroamides) in)  
 IT Polyamides, uses and miscellaneous  
 RL: USES (Uses)  
 (N-alkyl, nitro, thermally stable photoresists from)  
 IT 101-80-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (acetylation of)  
 IT 81897-02-1 81897-19-0 81897-20-3  
 RL: USES (Uses)  
 (photosensitive compns. contg., thermally stable)  
 IT 99-63-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (polymn. of, with dinitrodimethylamino di-Ph ether)  
 IT 41263-74-5P  
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and chlorination of)  
 IT 82357-49-1P  
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and deacetylation of)  
 IT 3070-86-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and nitration of)  
 IT 82357-48-0P  
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and polymn. of)  
 IT 81871-61-6P  
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and polymn. of, with isophthaloyl chloride)  
 IT 3070-87-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and redn. methylation of)  
 IT 6319-40-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methylamide)

L19 ANSWER 51 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1981:578713 CAPLUS  
 DN 95:178713  
 ED Entered STN: 12 May 1984  
 TI Photopolymerizable composition containing an O-nitroaromatic compound as  
 photoinhibitor  
 IN Pazos, Jose F.  
 PA du Pont de Nemours, E. I., and Co. , USA  
 SO Can., 61 pp.  
 CODEN: CAXXA4  
 DT Patent  
 LA English  
 IC G03C001-70; G03C005-24  
 CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 1103084	A1	19810616	CA 1977-273994	19770315
	BE 852517	A1	19770916	BE 1977-175825	19770316
	GB 1547548	A	19790620	GB 1977-11110	19770316
	JP 52111985	A2	19770920	JP 1977-28752	19770317
	JP 58009936	B4	19830223		
	NL 7702887	A	19770920	NL 1977-2887	19770317
	NL 183583	B	19880701		
	NL 183583	C	19881201		
	US 4198242	A	19780608	US 1978-913906	19780608
	US 4269933	A	19810526	US 1979-80082	19790928

GB 2068006	A	19810805	GB 1980-2778	19800128
GB 2068006	B2	19830810		
JP 56064338	A2	19810601	JP 1980-131747	19800924
PRAI US 1976-667536	A	19760317		
US 1977-758699	A	19770117		
US 1978-913906	A3	19780608		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CA 1103084	IC	G03C001-70; G03C005-24
	IPCI	G03C0001-70; G03C0005-24
BE 852517	IPCI	G03C
GB 1547548	IPCI	C08F0002-50; G03C0001-68
JP 52111985	IPCI	C08F0002-48; C08F0002-38; C08F0020-06; G03C0001-68; G03C0005-24; G03F0007-08
NL 7702887	IPCI	C08F0220-20; C08F0002-50; C09D0007-12; C09D0003-727; G03C0001-68
US 4198242	IPCI	G03C0002-68
	NCL	430/286.100; 430/301.000; 430/910.000; 430/917.000; 522/026.000; 522/028.000; 522/063.000; 522/065.000; 522/079.000; 522/109.000; 522/121.000
US 4269933	IPCI	G03C0005-00
	IPCR	C08F0002-46 [I,C]; C08F0002-50 [I,A]; C09D0004-06 [I,A]; C09D0004-06 [I,C]; G03F0007-027 [I,A]; G03F0007-027 [I,C]; G03F0007-031 [I,A]; G03F0007-031 [I,C]
	NCL	430/291.000; 430/281.100; 430/302.000; 430/306.000; 430/311.000; 430/312.000; 430/325.000; 430/328.000; 430/916.000; 430/917.000; 522/004.000; 522/014.000; 522/017.000; 522/018.000; 522/065.000; 522/121.000
GB 2068006	IPCI	C08F0002-50; G03C0001-68
JP 56064338	IPCI	G03C0005-00; G03F0007-00; H01L0021-302; H05K0003-06

GI

/ Structure 7 in file .gra /

AB A photopolymerizable compn. and process for the prodn. of pos. images are described. In the process a photopolymerizable compn. contg. a normally nongaseous, ethylenically unsatd. compd. capable of addn. polymn. by free-radical initiated chain propagation, a nitroarom. compd. of formula I (R1-R4 = H, OH, halogen, NO2, CN, C1-18 alkyl, C1-18 alkoxy, aryl, PhCH2, halophenyl, polyether radical, dialkylamino, thioalkyl, thioaryl, or any 2 of R1-R4 together form a benzene ring and .ltoreq.1 of R1-R4 is OH or NO2; R5 = H, C1-18 alkyl, halogen, Ph, C1-18 alkoxy; R6 = H, OH, C1-18 alkyl, Ph, C1-18 alkoxy; or R5R6 together as O, CH6, NPh, or similar divalent group), and an org., radiation-sensitive, free radical-generating system activatable by actinic radiation that does not significantly

\*\*\*rearrange\*\*\* the nitroarom. compd. to an inhibitor of free radical polymn. is coated on a suitable support, imagewise exposed through a transparency to radiation, .gtoreq.20% of which has a wavelength of .apprx.200 to .apprx.380 nm to \*\*\*rearrange\*\*\* at least some of the nitroarom. compd. to a polymn.-inhibiting nitroso arom. compd., then exposed to radiation with a wavelength of >380 nm to produce a pos polymer image, and then developed by an appropriate means to give a pos. polymeric image. Thus, a typical photopolymerizable compn contained 1,1,1-trimethylolpropane triacrylate (contg. hydroquinone and/or methylhydroquinone 200 ppm) 3.5 mL, o-nitrobenzyl alc 0.153, and phenanthrenequinone 0.021 g.

ST photopolymer nitro compd pos image; photoinhibitor nitro compd photoimaging

IT Graphic arts

\*\*\*Photomasks\*\*\*

(pos.-working photopolymerizable compns. contg. nitro compd. photoinhibitor for)

IT Lithographic plates

Semiconductor devices

(pos.-working photopolymerizable compns. contg. nitro compd. photoinhibitor for fabrication of)

IT Nitro compounds

RL: USES (Uses)

(arom., photoinhibitors, in photopolymerizable compns. for pos. image prodn.)

IT Electric circuits  
(integrated, pos.-working photopolymerizable compns. contg. nitro compd. photoinhibitor for fabrication of)

IT Resists  
(photo-, pos.-working, photopolymerizable compns. contg. nitro compd. photoinhibitors for)

IT Photoimaging compositions and processes  
(photopolymerizable, contg. nitroarom. compds. as photoinhibitors for pos. image prodn.)

IT Printing plates  
(relief, pos.-working photopolymerizable compns. contg. nitro compd. photoinhibitor for fabrication of)

IT 528-75-6 552-89-6 579-71-5 612-25-9 879-55-0 1016-58-6  
6526-72-3 15862-94-9 17064-77-6 20357-25-9 21203-88-3 21829-26-5  
39830-70-1 48140-35-8 63190-11-4 65907-71-3 65907-73-5  
65907-74-6 71172-14-0  
RL: USES (Uses)  
(photoinhibitor, in photopolymerizable photoimaging compns. for pos. image prodn.)

IT 84-11-7 95-71-6 106-10-5 109-16-0 111-21-7 117-81-7 123-31-9,  
uses and miscellaneous 128-37-0, uses and miscellaneous 149-30-4  
150-76-5 603-48-5 1241-94-7 1680-21-3 1707-68-2 3524-68-3  
7440-44-0, uses and miscellaneous 9011-14-7 15625-89-5 24620-40-4  
25086-15-1 25135-39-1 25176-75-4 29777-36-4 34122-40-2  
38394-52-4 39279-99-7 53802-03-2 58206-31-8  
RL: USES (Uses)  
(photopolymerizable photoimaging compns. contg. nitro compd. photoinhibitor and, for pos. image prodn.)

L19 ANSWER 52 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1968:466283 CAPLUS  
DN 69:66283  
ED Entered STN: 12 May 1984  
TI Preparation of hard butter for food coatings  
IN Bell, Richard J.; Campbell, Robert L., Jr.; Gibson, Paul; Sims, Jay F.  
PA Anderson, Clayton and Co.  
SO U.S., 4 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
INCL 099118000  
CC 17 (Foods)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3396037	A	19680806	US 1964-388912	19640811
PRAI	US 1964-388912	A	19640811		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3396037	INCL	099118000
	NCL	426/607.000; 426/313.000; 554/223.000; 554/224.000; 554/227.000

AB Coatings for some baked and frozen foods contain a fat, called hard butter, cocoa, sugar, and lecithin. To be desirable they must set quickly, melt readily in the mouth, give no waxy feel or residue, not \*\*\*mask\*\*\* the taste of the food, or form a "grey" or "bloom" on the gloss. The method of prepn. of the hard butter markedly influences these coatings qualities. Samples of the butter were prepd. by \*\*\*rearranging\*\*\* palm kernel oil or blends of oil with 0.4% Na methylate (I) as catalyst at 190-250.degree.F. for (1) 120 min. at atm. pressure, at 200, 100, 50, 20, and 10 mm. pressure, and (2) for 10, 20, 60, and 120 min. at 10 mm. pressure. In these preps. I was deactivated by conventional methods. Ten coatings were made, each contg. a different sample of the hard butter, the other ingredients being const. The incipient setting time, i.e., dulling of sheen, and the final setting time, detd. by a scratch with plastic, of each coating were measured. To show the acid deactivation of I, and the importance of maintaining the \*\*\*rearrangement\*\*\* temp. and low pressure during deactivation, a blend of 90% refined palm kernel oil and 10% refined, bleached cottonseed oil

was \*\*\*rearranged\*\*\* with 0.4% I at 235.degree.F. and 10 mm. Hg (abs.) pressure for 1 hr. After cooling to 180.degree.F. a stoichiometric amt. of 85% H3PO4 was added and the mixt. left quiet for 1 hr. at atm. pressure. Filtration was difficult and 736 ppm. of salt were found in the filtrate because the NaH2PO4 formed was hydrated and sol. The same blend was similarly \*\*\*rearranged\*\*\* for 2 hrs., the same amt. of H3PO4 added at 235.degree.F. and 10 mm. pressure and left for 30 min. After cooling to 180.degree.F., filtration with 1% filter aid diatomaceous earth gave a complete sepn. of the salt because the NaH2PO4 formed was anhyd. and insol. The hard butter used will make the desired coatings if prepd. by: (1) \*\*\*rearranging\*\*\* a blend of edible oils contg. at least 50% oil of the lauric type, i.e., lauric acid being the chief fatty acid, and non-lauric type oil, or the Me esters of non-lauric type oils or acids; (2) using a small amt. of a low-temp. catalyst, preferably I at 180-240.degree.F., and pressure <.apprx.20 mm. Hg, during 60-120 min.; then deactivating I at that temp. and pressure, with a stoichiometric amt. of H3PO4.

ST hard butter food coatings; food coatings hard butter; baked foods coatings; coatings baked food

IT Bakery products

Food

Frozen desserts

(coatings for, hard shortening manuf. for)

IT Confectionery

(coatings, hard shortening manuf. for)

IT Coating materials

(food, hard shortening manuf. for)

IT Shortening

RL: BIOL (Biological study)

(manuf. of hard, for food coatings)

IT Oils

RL: BIOL (Biological study)

(palm-kernel, transesterification of, for hard shortening manuf.)

IT Esterification catalysts

(trans-, sodium methoxide as, for hard shortening manuf.)

IT Cottonseed oil

RL: RCT (Reactant); RACT (Reactant or reagent)

(transesterification of, for hard shortening manuf.)

IT Oils

RL: BIOL (Biological study)

(vegetable, transesterification of, for hard shortening manuf.)

IT 124-41-4

RL: BIOL (Biological study)

(as transesterification catalyst in hard shortening manuf.)

IT 112-61-8

RL: BIOL (Biological study)

(in shortening (hard) manuf. by transesterification)

L19 ANSWER 53 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1950:4673 CAPLUS

DN 44:4673

OREF 44:907e-h

ED Entered STN: 22 Apr 2001

TI The dynamic elastic properties of some high polymers

AU Hillier, K. W.; Kolsky, H.

SO Proceedings of the Physical Society, London (1949), 62B, 111-21

CODEN: PPSOAU; ISSN: 0370-1328

DT Journal

LA Unavailable

CC 2 (General and Physical Chemistry)

AB An app. for the investigation of the transmission of sound along filaments at frequencies between 1000 and 6000 cycles per sec. is described, both for unstrained specimens and while they are being elongated at a const. rate of increase of strain. Measurements of the dynamic elasticity and damping factors of filaments of polythene, neoprene, and nylon were obtained, and the correlation of these results with the mol.

\*\*\*rearrangements\*\*\* during stretching is discussed. In the unstretched specimens the dynamic value of Young's modulus obtained from the measurements of the velocity of sound is several times as great as the limiting gradient of the stress-strain diagram. The values of the dynamic moduli for both polythene and nylon, as the filaments are stretched, first shows a slight decrease followed by a rapid rise. In the case of

neoprene, however, the dynamic modulus increases steadily. The gradients of the stress-strain curves for polythene and nylon decrease continually with strain; this fact shows that the effects of plastic flow completely \*\*\*mask\*\*\* the changes in elastic behavior. For neoprene the gradient increases but at a much slower rate than the dynamic modulus. For polythene the damping increases with frequency. The damping coeff. of unstretched neoprene is very much higher than those obtained for polythene and nylon.

IT Polymers  
     (elastic properties (dynamic) of)  
 IT Rayon and other artificial fibers  
     (from ethylene polymers, sound transmission along)  
 IT Elasticity  
     (polymer dynamic)  
 IT Nylon  
     (sound transmission along)  
 IT Neoprene  
     (sound transmission along filaments of)  
 IT Sound  
     (transmission of, along polymer filaments)  
 IT 9002-88-4, Ethylene, homopolymer  
     (sound transmission along filaments of)

L19 ANSWER 54 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1947:11083 CAPLUS

DN 41:11083

OREF 41:2267f-i,2268c-g

ED Entered STN: 22 Apr 2001

TI The thermoelastic properties of rubber

AU Meyer, Kurt H.; van der Wyk, A. J. A.

CS Univ. Geneva, Switz.

SO Helvetica Chimica Acta (1946), 29, 1842-53

CODEN: HCACAV; ISSN: 0018-019X

DT Journal

LA French

CC 30 (Rubber and Other Elastomers)

AB To explain, on a mol. basis, the deviation from ideal behavior of rubber when stressed (cf. M., von Susich, and Valk. acte.o, C.A. 26, 5245; M. and Ferri, C.A. 29, 4622.8, 6465.8) the authors derive thermodynamic equations for isothermal deformations. Although changes in vol. during stretching have heretofore been disregarded, part of the work of stretching is expended in changing the vol. against the external pressure; in fact a very small isothermal change in vol. involves a considerable change in entropy and internal energy. This change in entropy is caused not only by the change in vol. but also by mol. \*\*\*rearrangement\*\*\*. When rubber is stretched slightly, the first influence predominates, and the entropy increases; at elongations around 10%, the 2 influences compensate each other, so there is no change in entropy; at higher elongations mol. \*\*\*rearrangement\*\*\* is the dominant factor, and the entropy decreases.

Unilateral compression likewise brings about a change in vol., in this case a decrease, with resultant decrease in entropy. Here too the smaller the deformation, the more the vol. effect \*\*\*masks\*\*\* the effect of mol. \*\*\*rearrangement\*\*\*. When deformation involves simultaneous elongation and compression whereby the increase in vol. caused by stretching compensates for the decrease in vol. caused by compression, the vol. remains const. This is true of rotatory shearing. Increases in vol. at low elongations take place along the mol. plane and involve displacement of groups of atoms, e.g., segments of chains, from their arrangement at equil. This expansion results in an increase in internal energy. With increase in elongation the mol. chains become oriented in the direction of the stress, which acts more intensely on the primary valences. These latter are, however, so strong that the atomic displacement and increase in vol. remain extremely small. Crystn. at higher elongations decreases the entropy and internal energy. When the point of rupture is approached, i.e., when orientation of the chains is a max., the internal energy increases again, for at this point the external force is great enough to deform the primary valence angles, with resulting increase in energy and entropy. Compression decreases the energy and entropy. In general, changes in energy and entropy are very complex because of the concomitant effects of several factors, e.g., expansion against intermol. forces of adhesion, extension, and orientation of the chain mols., crystn., and deformation of the primary-valence angles. The

forces of cohesion depend greatly on the chem. nature of the elastomer; hence the change in internal energy as a function of the elongation is not the same for all elastomers, e.g., butadiene-styrene copolymers behave differently from natural rubber. The exptl. work on which the discussion and deductions are based is described. The work as a whole shows that deviations of rubberlike materials from ideal behavior at low elongations or compressions are explainable by small changes in vol. which bring about changes in internal energy and entropy. On the contrary, in shearing the behavior is ideal even at very small deformations, for shearing does not cause any change in vol.

- IT Rubber
  - (elasticity (thermo-) of, and changes in energy and entropy from isothermal changes in vol. and mol. \*\*\*rearrangement\*\*\* in)
- IT Rubber
  - (entropy and internal energy changes from isothermal changes in vol. and mol. \*\*\*rearrangement\*\*\* in)
- IT Cohesion
  - (forces in rubbers at high elongations, effect on entropy and internal energy)
- IT \*\*\*Rearrangements\*\*\*
  - (in rubber mols. under tension)
- IT Energy
  - (internal, entropy, pressure, vol. and mol. \*\*\*rearrangements\*\*\* in rubbers in relation to)
- IT Thermodynamics
  - (of deformations (isothermal) of rubber)
- IT Entropy
  - (of isothermal change in vol. and mol. \*\*\*rearrangement\*\*\* in rubber under tension)
- IT Crystallization
  - (of rubber, at high elongations, effect on entropy and internal energy)
- IT Elastic deformation
  - (of rubber, thermodynamic equations for isothermal)

L19 ANSWER 55 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1938:11754 CAPLUS

DN 32:11754

OREF 32:1679d-i,1680a-b

ED Entered STN: 16 Dec 2001

TI Chemical effects accompanying hydrogen bonding. I. Acyl derivatives of the 2-hydroxy-5-methylbenzophenone oximes

AU Blatt, A. H.

SO Journal of the American Chemical Society (1938), 60, 205-10

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

AB It has been shown (C. A. 30, 8155.1) that the isomeric oximes of ketones such as o-HOC6H4Bz differ from each other in that 1 isomer contains a H bond between O and N while the other does not. These oximes offer the most favorable opportunity for learning by direct comparison the chem. effects due to bonding. Pyridine benzylation furnishes the oximino benzoates. syn-Ph-2-hydroxy-5-methylphenyl ketoxime (I) benzoate (II), m. 148-9.degree.; anti-isomer (III), m. 174-5.degree.. The bonded II is hydrolyzed by NaOH to I; it is \*\*\*rearranged\*\*\* by Na2CO3 to the benzoxazole (IV) and is converted smoothly to the benzisoxazole (V) on pyrolysis. The non-bonded III is hydrolyzed to the parent oxime with NaOH or Na2CO3 and on pyrolysis gives a small quantity of IV. These results confirm and parallel the behavior of the acetates (C. A. 30, 8155.1) with the exception of the pyrolysis of the non-bonded acetate, which was reported to furnish a mixt. of IV and V; it now is believed that IV is the primary pyrolysis product and that V results from a shift of configuration which takes place on heating and which precedes pyrolysis. By the Schotten-Baumann procedure I and its isomer yield di-Bz derivs. 2-Bz deriv. (VI) of II, m. 147-8.degree.; the anti-isomer (VII) m. 132-3.degree.. VI is hydrolyzed by NaOH or Na2CO3 without \*\*\*rearrangement\*\*\*; Na2CO3 removes the oximino Bz group preferentially to furnish the phenolic benzoate (VIII), m. 162-3.degree.; NaOH, depending upon the concn., hydrolyzes VI to VIII or I; VIII is hydrolyzed by NaOH to I. VII is not hydrolyzed by Na2CO3 but with NaOH it gives III and then the parent oxime. VIII contains a free oximino group and with PCl5 in Et2O it undergoes a Beckmann \*\*\*rearrangement\*\*\* to yield almost

quantitatively O,N-dibenzoylaminocresol, m. 190-1.degree.. I with AcCl at room temp. undergoes a Beckmann \*\*\*rearrangement\*\*\*, giving IV; at the b. p., AcCl gives the acetate of I, while prolonged boiling gives the di-Ac deriv. of the non-bonded oxime, also obtained from the non-bonded oxime or its acetate and AcCl either cold or at its b. p. Preferential hydrolysis of 1 Ac group could not be effected. When the non-bonded oxime or its acetate the bonded oxime or its acetate or the non-bonded oxime diacetate was treated with Ac2O and H2SO4 the product was O-acetyl-N-benzoylaminocresol. Treatment of the non-bonded oxime in C5H5N or in 20% KOH with PhSO2Cl furnishes p-cresotinic anilide; I in C5H5N gives IV but in 20% KOH the product was V; this indicates that removal even by salt formation of the H atom necessary for bonding can destroy bonding. The 2,4,6-trimethylbenzoate (IX) of I m. 149-50.degree. (1 prepn. m. 108-9.degree. but could not be prepd. again); the anti-isomer (X) m. 176-7.degree.. IX yields IV on treatment with Na2CO3 and pyrolysis furnished V; IV also resulted with NaOH; X decompd. on pyrolysis and was not affected by NaOH or Na2CO3 under conditions in which IX yielded IV; however, extended reaction of NaOH gives IV. Thus, the effect of bonding is primarily to facilitate or retard certain reactions, not to make them inevitable or impossible, and steric factors may either accentuate or \*\*\*mask\*\*\* this effect.

IT Reactions  
 (hydrogen bonding and)  
 IT Bonds  
 (hydrogen, between O and N, chem. effects of)  
 IT Acylation  
 (of 2-hydroxy-5-methylbenzophenone oximes)  
 IT 1333-74-0, Hydrogen  
 (bonds, between O and N, chem. effects of)  
 IT 463-79-6, Carbonic acid  
 (esters)  
 IT 7727-37-9, Nitrogen  
 (hydrogen bonding between O and)  
 IT 7782-44-7, Oxygen  
 (hydrogen-bond formation between N atoms and)  
 IT 1470-57-1, Benzophenone, 2-hydroxy-5-methyl-  
 (oximes, and their acyl derivs.)  
 IT 7007-65-0, 1,2-Benzisoxazole, 5-methyl-3-phenyl-  
 (prepn. of)

L19 ANSWER 56 OF 56 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1920:16445 CAPLUS

DN 14:16445

OREF 14:3084h-i,3085a-i

ED Entered STN: 16 Dec 2001

TI The union of the iron in the prosthetic group of the blood pigment and the constitution of hemin

AU Kuster, William

SO Ber. (1920), 53B, 623-33

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

GI For diagram(s), see printed CA Issue.

AB K.'s views on the constitution of hemin and on the union of the Fe to the org. part of the mol. have thus far not received general recognition (cf. Willstatter, C. A. 9, 331), but he still believes they are in better accord with the facts than those of W. In his opinion, the union of Fe in hemin is related with the unsatd. groupings, not of the side chain, but those which condition the color of the porphyrins; it is the chloroferric group which in mesohemin and still more in hemin \*\*\*masks\*\*\* the basic properties of mesoporphyrin and the appearance of basic properties in the formation of the latter is not due to a mol. \*\*\*rearrangement\*\*\* resulting in the production of basic pyrrole nuclei; all the evidence indicates that the pyrrole nuclei in hemin are substituted in each of their .alpha.-positions, which can be true only if they are united through 4 methin groups. K. does not maintain that his views are correct all the way through, but for the time being they are the best available. The "relations between the acid and basic groups of the hemin mol.," which he has always maintained as being "present," have been further developed. Hematoporphyrin diethyl ether (A), prepd. like the di-Me compd. (C. A. 9, 2882) a brick-red cryst. powder without m. p., sol. in 5% soda at room temp., takes up 3 mols. NH3 in H2O, forms, trisilver salt. seps. from N



HCl in vacuo over H<sub>2</sub>SO<sub>4</sub> as the dihydrochloride (B), strongly hygroscopic druses of needles decompd. by H<sub>2</sub>O. That a betaine union can occur is shown by the fact that when this ether is boiled 0.5 hr. under a reflux in 1% alc. HCl, pptd. with NaOAc, taken up in Et<sub>2</sub>O, shaken with soda, dried and concd., there is obtained an isomer, bundles of needles, insol. in 12% NaOH at room temp. but sol. on warming; 0.4 g. dissolved in 5 cc. of N HCl only after 5 days and on long standing in vacuo over H<sub>2</sub>SO<sub>4</sub> gave 0.26 g. of B. In cold EtOH with HCl, on the other hand, A gives the diethyl ester (tetraethylhematoporphyrin), steel-blue powder insol. in 12% NaOH at room temp., sepg. from Et<sub>2</sub>O in granular cryst. aggregates. Expts. with CH<sub>2</sub>N<sub>2</sub> (C. A. 12, 1471) had already shown the existence of a relationship between the CO<sub>2</sub>H and chloroferric groups of hemin, for while porphyrins are easily esterified, .alpha.-hemins are esterified to only a slight extent and in .beta.-hemins only one CO<sub>2</sub>H group is esterified; moreover, the halogen is never removed by CH<sub>2</sub>N<sub>2</sub>, while it has now been found that the HCl salts of Ph<sub>3</sub>CH dyes lose HCl thus, 1 g. crystal violet in 100 cc. Me<sub>2</sub>CO with the CH<sub>2</sub>N<sub>2</sub> from 2.5 cc. ONNMeCO<sub>2</sub>Et gives MeCl and 0.8 g. of the leuco base, m. 173-4.degree.. Contrary to the views expressed by K. in 1912, therefore, there is no relation between the Cl and the N of hemin, but the relations between the Fe and the N are different from those assumed by W. While the union of the Cl to the Fe is made highly probable by the above expt., it is rendered certain by the results of cond. detns. in C<sub>5</sub>H<sub>5</sub>N at 25.degree. on .alpha.-hemin (.mu. 6.7127, 9.4233, 14.0932, 19.4134 for v 208.48, 416.96, 833.92, 1667.4) and its di-Me ester (.mu. 5.2338, 7.4103, 3.0094 for v 217.44, 434.88, 869.74, resp.); i. e., they behave like inorg. salts so that the CO<sub>2</sub>H groups take no part in the cond. of hemin. Hemin may therefore be formulated with an ionogenic Cl atom, [C<sub>34</sub>H<sub>32</sub>O<sub>4</sub>N<sub>4</sub>Fe]Cl, and the Fe in the "cationogen," which explains the relations between hemin and "hematin," which forms a sol. Na salt in which the Fe is in the anion. In the change hemin. .fwdarw. hematin, the Cl is first replaced by OH, with formation of hydroxyhemin, which is not further affected by weak bases (a soln. of hemin in C<sub>5</sub>H<sub>5</sub>N poured into dil. AcOH yields a substance which can be reconverted into hemin; the component of methemoglobin is also to be considered as this hydroxyhemin, not as hematin, for the "hematin" remaining after digestion of the globin can likewise be converted into hemin). Strong alkalies, however, effect the transformation into hematin; as an intermediate product is formed the Fe salt of a CO<sub>2</sub>H acid which, taking up NaOH, e. g., gives off a Na ion while the Fe remains in the anion; the Fe detaches itself from one of the N atoms and is replaced by the H of the OH while the remainder combines with the Fe: On acidification, the hematin is pptd. with elimination of H<sub>2</sub>O, which may occur in different ways so that the product is not homogeneous.

IT Blood pigments  
     (prosthetic group of, union of Fe in)  
 IT Hematoporphyrin, tetraethyl-  
 IT 861365-73-3, Hematoporphyrin, diethyl ether  
     (and derivs. and isomer)  
 IT 16009-13-5, Hemin  
     (constitution of)

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=> s l20  
L21 2 L20

=> d all 1-2

L21 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:195413 CAPLUS  
DN 139:180974  
ED Entered STN: 12 Mar 2003  
TI High performance lenses/HID refractors and fluorescent tubes from SOLLX TM  
resins  
AU Anon.  
CS USA  
SO IP.com Journal (2002), 3(1), 34 (No. IPCOM000010543D), 13 Dec 2002  
CODEN: IJPOBX; ISSN: 1533-0001  
PB IP.com, Inc.  
DT Journal; Patent  
LA English  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 73  
PATENT NO. KIND DATE APPLICATION NO. DATE  
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PI IP 10543D 20021213  
PRAI IP 2002-10543D 20021213  
AB Lighting lenses and refractors used on HID (high intensity discharge)  
fixtures are exposed to elevated temps. and high levels of UV light. The

UV irradiation combined with the elevated temperature often causes resin degradation in these lenses and refractors, resulting in discoloration and the loss of their ductility. In many cases, it is desirable that the refractors are resistant to breakage can come from either accidental impact from such objects as broom handles, malicious impacts as in the case of stones from vandals or from impacts from gunshots. We have developed resin for refractor products that provide improved resistances to UV light while at the same time maintain high levels of impact strength.

ST SOLLX resin UV resistance lens refractor fluorescent tube  
IT Pipes and Tubes  
(fluorescent; high performance lenses/HID refractors and fluorescent tubes from SOLLX TM resins)  
IT Lenses  
Light-resistant materials  
(high performance lenses/HID refractors and fluorescent tubes from SOLLX TM resins)  
IT \*\*\*497883-23-5\*\*\* , SOLLX  
RL: TEM (Technical or engineered material use); USES (Uses)  
(high performance lenses/HID refractors and fluorescent tubes from SOLLX TM resins)

L21 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:647927 CAPLUS

DN 138:171195

ED Entered STN: 28 Aug 2002

TI Zero VOC SOLLX film for weatherable, high-gloss, chemical and scratch resistant performance

AU Brister, Elizabeth; Johnson, Robert; Myers, Randall; Saggese, Luca; Schuering, Kurt; Wang, Hua

CS Plastics Technology Division, General Electric Company, Mt. Vernon, IN, 47620, USA

SO Proceedings of the International Waterborne, High-Solids, and Powder Coatings Symposium (2002), 29th, 261-275  
CODEN: PIWCF4

PB University of Southern Mississippi, Dep. of Polymer Science

DT Journal

LA English

CC 38-3 (Plastics Fabrication and Uses)

AB GE Plastics has developed a polymeric film (SOLLX) as part of its pursuit to provide a truly weatherable polymer system that offers paint-like appearance in a wide variety of metallic colors with Class A finish and exterior application, durability, esp. applicable in automotive exterior panels and trim. SOLLX film with its unique property combination can be applied over a wide range of substrates to yield a Class A finish that offers high-gloss, weatherability, scratch and chem. resistance, and high surface quality without the need for paint.

ST film polycarbonate high gloss scratch resistant insert molding automobile

IT Plastic films  
(SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

IT Automobiles  
(bodies; SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

IT Molding of plastics and rubbers  
(double-shot; SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

IT Polyesters, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polycarbonate-; SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

IT Polycarbonates, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyester-; SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

IT \*\*\*497883-23-5\*\*\* , SOLLX  
RL: TEM (Technical or engineered material use); USES (Uses)  
(SOLLX film for weatherable, high-gloss, chem. and scratch-resistant performance)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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e.pdf

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=> d his

(FILE 'HOME' ENTERED AT 11:23:01 ON 30 JAN 2006)

FILE 'CAPLUS' ENTERED AT 11:23:08 ON 30 JAN 2006

L1 28980 S RESORCINOL  
L2 1449 S L1 AND (UV OR ULTRAVIOLET)  
L3 200 S L1 AND (MASK? OR PHOTOMASK?)  
L4 5 S L3 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O  
L5 136 S L2 AND (ARYLATE OR CARBONATE OR POLYCARBONATE OR ISOPHORONE O  
L6 136 S L5 NOT L4  
L7 5 S L6 AND (REFRACTIVE OR REFRACTION OR FRIES)  
L8 117 S L2 AND POLYESTER  
L9 0 S L8 AND (MASK? OR PHOTOMASK?)  
L10 2215 S L1 AND POLYESTER  
L11 1 S L10 AND (MASK? OR PHOTOMASK?)  
L12 117 S L10 AND (UV OR ULTRAVIOLET)  
L13 5 S L12 AND (PATTERN? OR REFRACTIVE OR REFRACTION OR FRIES)  
L14 0 S SLLX  
L15 15 S L1 AND (GRATING OR HOLOGRA?)  
L16 3 S L1 AND (WAVEGUIDE)  
L17 12 S L1 AND ((OPTICAL OR LASER OR INFORMATION) (5A) (MED? OR DISK OR  
L18 1 S (PHOTOMASK OR MASK) AND (FRIES (3A) REARRANG?)  
L19 56 S (PHOTOMASK OR MASK) AND (FRIES OR REARRANG?)

FILE 'REGISTRY' ENTERED AT 11:38:04 ON 30 JAN 2006

L20 1 S SOLLX

FILE 'CAPLUS, INSPEC' ENTERED AT 11:38:19 ON 30 JAN 2006

L21 2 S L20

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	7.80	439.25
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.50	-78.00

STN INTERNATIONAL LOGOFF AT 11:38:58 ON 30 JAN 2006